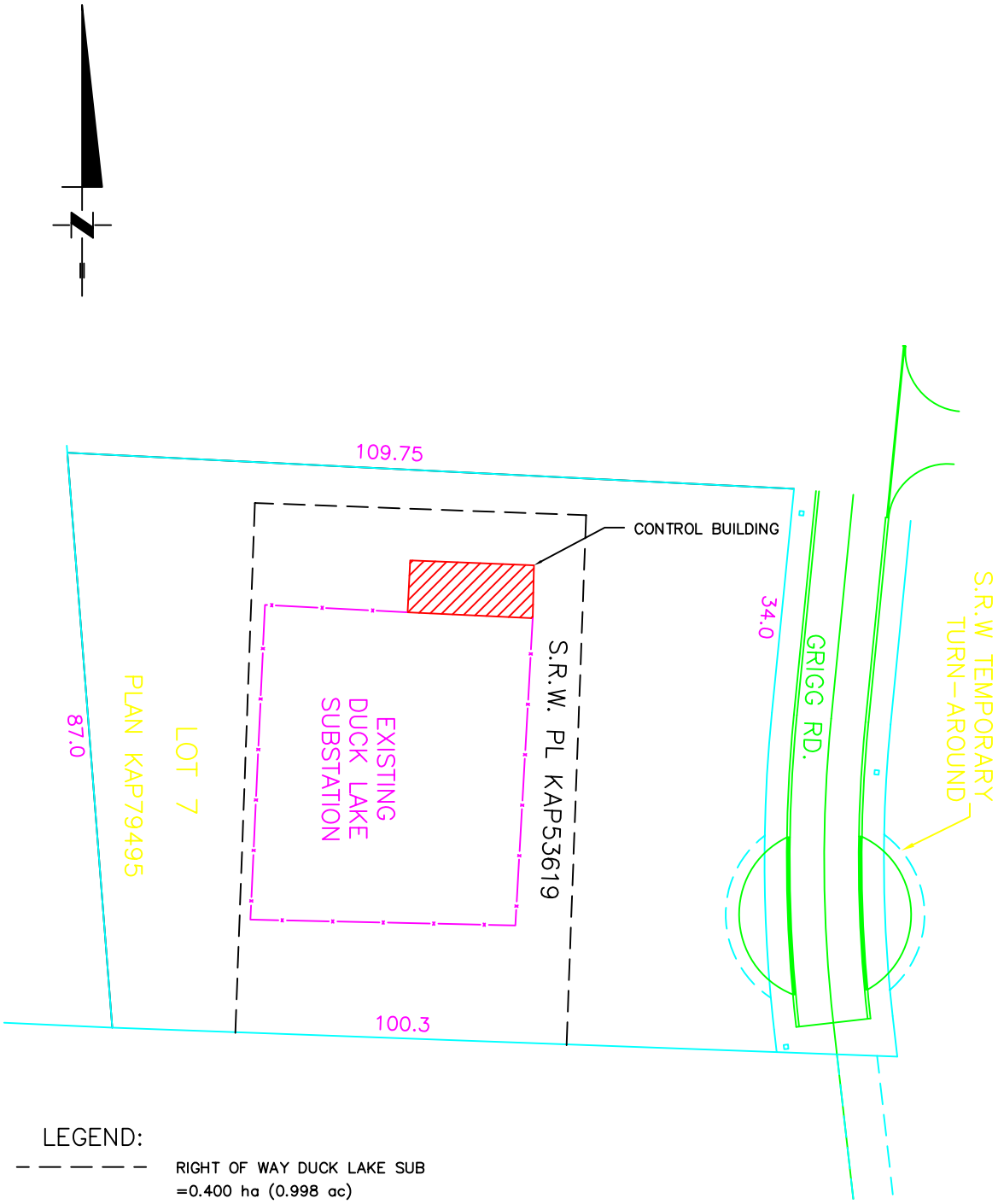


LEGEND:

RIGHT OF WAY DUCK LAKE SUB
=0.400 ha (0.998 ac)

FENCED AREA
=0.19ha (0.47ac)

TOTAL AREA LOT 7
=0.885ha (2.19ac)

REV	DATE	BY	CHECKED	DESCRIPTION	APP.	DATE
6						
5						
4						
3						
2						
1						

DRAWN BY	S.W.	OCT/07	OKANAGAN REGION CUSTOMER SERVICES DUCK LAKE SUBSTATION
CHECKED BY			
APPROVED BY			

FORTISBC

DRAWING No.	REV.
	0

BRITISH COLUMBIA

December 21, 2006

File: 43265-30/General

Water Power Licensee

Dear Sir/Madam:

This is further to my letter of September 5, 2006, regarding proposed BC Hydro rate increases before the British Columbia Utilities Commission (BCUC) for review.

On November 10th, 2006, the BCUC issued Order G-143-06, which awarded BC Hydro a 1.54 percent rate increase which is effective July 1, 2006.

Annual water licence rentals are set by the Water Regulation (*Water Act*), and the rates for both commercial and general power purposes are also indexed to the percentage of approved increases awarded by the BCUC to BC Hydro. These approved rate increases are then applied to the water licence rental rates for power commercial and general purposes in the next calendar year. The indexing factor for 2006 was 1.0485. As a result of Order G-143-06, the indexing factor for 2007 is 1.0646.

The enclosed table provides the new 2007 indexed rental rates for power commercial and general water licences. The water power rental rates for 2007 also will be published in the BC Gazette.

The Order also awards a further 0.1 percent increase effective February 1, 2007. In addition to the 1.64 percent increase, the BCUC has authorized a "rate rider" on all customer bills after January 31, 2007. For the period of February 1, 2007 to March 31, 2008, the fixed percent used to calculate the rate rider will be 2%. These increases will be used to calculate the indexing factor for 2008. Rates for 2008 will be published in the BC Gazette in December of 2007.

If you have any questions related to the rates, please contact Bala Balachandran, Section Head, Licensing, Management and Standards Branch at (250) 387-1156.

Yours truly,

James S. Mattison, P. Eng
Comptroller of Water Rights

Enclosure

Ministry of Environment
Water Stewardship Division
Assistant Deputy Minister's Office
www.env.gov.bc.ca/wsd/

Mailing Address:
PO Box 9362 Stn Prov Govt
Victoria BC V8W 9M2
Telephone: 250-356-9443
Facsimile: 250-387-5669

Location:
5th Floor, 2975 Jutland Rd
Victoria BC V8T 5J9

Rental Rates, With Indexing Applied, For Power Commercial and General Purpose in Calendar Year 2007

(a) Commercial Power Use:

Construction capacity, for each kilowatt, $0.294

Authorized capacity, other than construction capacity, for each kilowatt, $1.837

Output for each megawatt-hour, $1.103

Minimum annual rental for each licence, $100.00

(b) General Power Use:

Construction capacity, for each kilowatt, $0.367

Authorized capacity, other than construction capacity, for each kilowatt, $3.676

Output, for each megawatt-hour a year, up to a total of 160,000 megawatt-hours from all power developments operated by the same licensee, $1.103

Output, for each additional megawatt-hour a year $5.147

Minimum annual rental for each licence $200.00

SPECIFIC ITEMS
SECTION 3461
employee future benefits

Additional Resources

Background Information and Basis for Conclusions

PURPOSE

.001 This Section establishes standards for the recognition, measurement, and disclosure of the cost of employee future benefits. It requires an entity to recognize the cost of retirement benefits and certain post-employment benefits over the periods in which employees render services to the entity in return for the benefits. Other post-employment benefits are recognized when the event that obligates the entity occurs.

OBJECTIVE AND BASIC PRINCIPLES

.002 The objective of accounting for the cost of employee future benefits is to recognize a liability and a cost [1] in the reporting period in which an employee has provided the service that gives rise to the benefits. Benefit plans are considered part of an employee's compensation arrangement. Certain benefit plans oblige

an entity to provide benefits to an employee in future periods for service provided by the employee in the current period. The cost of providing future benefits under such plans is recognized in the period in which benefits are earned by the employee because the obligation to provide benefits arises as the employee renders the service.

.003 As set out in FINANCIAL STATEMENT CONCEPTS, Section 1000, liabilities have three essential characteristics, as follows:

(a) they embody a duty or responsibility to others that entails settlement by future transfer or use of assets, provision of services or other yielding of economic benefits, at a specified or determinable date, on occurrence of a specified event, or on demand;

(b) the duty or responsibility obligates the entity leaving it little or no discretion to avoid it; and

(c) the transaction or event obligating the entity has already occurred.

An obligation for employee future benefits possesses these characteristics. First, an entity has a responsibility to its employees to provide the benefits at a specified time in the future, i.e., when an employee retires or leaves the entity. Second, although the responsibility is not always contractual, the obligation is constructive or equitable in almost all cases, thereby leaving an entity little or no discretion to avoid it. Finally, an entity is obligated either by the rendering of service by the employee or, in the case of certain post-employment benefits, by an event such as an application for long-term disability benefits or parental leave.

.004 Employee future benefits may be provided as part of a defined contribution plan or a defined benefit plan (see paragraphs < 3461 >.010-.013). When an entity provides future benefits as part of a defined contribution plan, the entity's only obligation is to make the required contributions (see paragraphs < 3461 >.014-.023). When an entity provides future benefits as part of a defined benefit plan, the entity's obligation is for the provision of the benefits in future periods. Estimating the cost for the current period of these future benefits involves an actuarial valuation and an attribution method (see paragraphs < 3461 >.024-.134). Termination benefits may be offered under the terms of a benefit plan or as a special arrangement for a short period of time only (see paragraphs < 3461 >.135-.142).

SCOPE

.005 This Section applies to benefits earned by active employees and expected to be provided to them when they are no longer providing active service, pursuant to the terms of an entity's undertaking to provide such benefits. Employee future benefits include:

(a) pension and other retirement benefits expected to be provided after retirement to employees and their beneficiaries. These benefits include pension income, health care benefits, life insurance, and other miscellaneous benefits provided to employees after retirement.

(b) post-employment benefits expected to be provided after employment but before retirement to employees and their beneficiaries. These benefits include long- and short-term disability income benefits (including workers' compensation), severance benefits, salary continuation, supplemental

unemployment benefits, job training and counselling, and continuation of benefits such as health care benefits and life insurance.

(c) compensated absences for which it is expected employees will be paid. These benefits include parental leaves, accumulating sick days that vest or are paid without an illness-related absence, and sabbaticals that provide compensated, unrestricted time off for past service.

(d) termination benefits.

.006 Active employees are those currently rendering service to the entity. Former employees are those who are retired, whose employment has been terminated or who have left the entity. Inactive employees are those who are not currently rendering service to the entity but whose employment has not been terminated. Active, former and inactive employees are referred to in this Section collectively as "employees".

.007 An entity's arrangement to provide future benefits to employees may take a variety of forms and may be financed in different ways. Future benefits may be provided either directly by an entity or through an intermediary, such as a pension plan or an insurance enterprise. This Section applies to any arrangement that is in substance a benefit plan regardless of its form or the manner or timing of its funding. Absent evidence to the contrary, it is presumed that an entity that has provided benefits in the past and is currently promising those benefits to employees will continue to provide those benefits in the future. This Section applies to future benefits for which an entity pays all or part of the cost. This Section applies to entities with funded and unfunded benefit plans.

.008 This Section does not apply to benefits provided by an entity to employees during their active employment. Examples of these benefits are:

(a) salaries, wages, bonuses, fringe benefits, and similar items that are provided by an entity in the current reporting period, or within twelve months thereafter, in exchange for services rendered by employees in the current reporting period;

(b) occasional sick days and vacation days that do not vest or accumulate beyond twelve months after the current reporting period; and

(c) benefits provided under stock-based compensation arrangements. A stock-based compensation arrangement is a compensation arrangement under which one or more employees receive shares of stock, stock options, or other equity instruments, or an entity has an obligation to employees for amounts based on the value of the entity's shares.

DEFINITIONS

.009 The definitions that follow have been adopted for the purpose of this Section. The application of some of this Section requires an understanding of additional technical terms that are defined in paragraphs 3461.024, 3461.101, 3461.111, 3461.135 and 3461.145. The Glossary of defined terms contains all of the definitions in this Section.

(a) **Actuarial assumptions** are estimates of future events that will affect an entity's costs, and obligation, for employee future benefits. Examples of these estimates are rates of return on plan assets, administration expenses and taxes (other than income taxes), termination rates, disability claim rates, rates of employee turnover, retirement age, mortality, dependency status, per capita claims costs by age and by type

of benefit, health care cost trend rates, discount rates to reflect the time value of money, and future salary and benefit levels.

(b) An **actuarial valuation** is an assessment of the financial status of a benefit plan. It includes the valuation of plan assets, if any, and the accrued benefit obligation.

(c) A **benefit plan** is any arrangement that is mutually understood by an entity and its employees whereby the entity undertakes to provide its employees with benefits after active service in exchange for their services. Benefits may commence immediately upon termination or suspension of active service or may be deferred until an employee attains a specified age. Generally, a written plan provides the best evidence of the terms of the benefit plan. However, the terms of a benefit plan may also be discernible from a well-defined, although unwritten practice of paying benefits or from oral representations made to employees. For example, an indication that the terms of a benefit plan differ from the written plan may be discerned from an entity's past practice of providing regular increases in certain monetary benefits. An entity could have a present commitment to amend the benefit plan, either in writing or through practice or oral representations. Evidence of an entity's commitment to amend the benefit plan includes its past practices of amending the plan, identification of strategies to effect future changes, and the assessment of the feasibility and likelihood of making those changes in light of the expected economic and social costs. Anticipated amendments that are subject to negotiations do not constitute terms of a benefit plan until such amendments have been negotiated and agreed to by the entity and its employees.

(d) **Benefits that accumulate** are those for which the right to the benefit is earned but unused and may be carried forward to one or more periods subsequent to that in which they are earned, even though there may be a limit to the amount that can be carried forward.

(e) A **defined benefit plan** is a benefit plan that specifies either the benefits to be received by an employee, or the method of determining those benefits, such as a benefit of $10,000 of life insurance or a pension benefit equal to one and a half percent of the average of the final five years' salary times the total years of service. Any benefit plan that is not a defined contribution plan is a defined benefit plan.

(f) A **defined contribution plan** is a benefit plan that specifies how an entity's contributions to the plan are determined rather than the benefits to be received by an employee or the method of determining those benefits. The plan also allocates the entity's contributions to specific individuals. The future benefit for each employee is the accumulated amount of the contributions made by the entity on that employee's behalf together with the accumulated amount of any contributions made by the employee and the investment earnings on the contributions.

(g) Employee future benefits that **vest** are those for which, after a specific or determinable date, the entitlement ceases to be conditional on an employee remaining in the service of an entity.

DEFINED CONTRIBUTION PLANS COMPARED TO DEFINED BENEFIT PLANS

.010 Employee future benefits are provided under either a defined contribution plan or a defined benefit plan. When an entity provides benefits under a defined benefit plan, it is at risk with respect to the amount of the benefit that each employee will receive because the amount is not known with certainty until the benefits have all been paid or cease (actuarial risk). The entity is also at risk with respect to the investment returns on any assets set aside to pay for the cost of the benefits because any shortfall from expected returns must be funded by the entity (investment risk).

.011 When an entity provides benefits under a defined contribution plan, it does not assume the actuarial and investment risks inherent in a defined benefit plan. A defined contribution plan specifies how contributions are determined rather than the amount of benefits an employee is to receive or the method for determining those benefits. The entity contributes a certain amount to the fund in each period in exchange for services rendered by the employee and has no responsibility to make any further contributions. The employees are at risk because the amount of the benefit that will be payable to an individual employee is entirely dependent upon the amount of funds accumulated in the employee's account and the investment earnings on the accumulated funds.

.012 A particular benefit plan is classified as either a defined benefit plan or a defined contribution plan depending on the economic substance of the plan established by its terms and conditions. A benefit plan may contain characteristics of both defined benefit and defined contribution plans but be, in substance, one or the other. For example, a benefit plan may stipulate the basis of contributions on which future benefits are determined and, because of this, appear to be a defined contribution plan. However, the plan may make the entity responsible for specific employee future benefits or a specified level of future benefits. In such a case, the plan is, in substance, a defined benefit plan. Another example is a pension plan in which the benefits provided are the greater of the benefits under a defined benefit plan and the benefits under a defined contribution plan. Such a plan is accounted for as a defined benefit plan.

.013 In some circumstances, a benefit plan may incorporate both a defined contribution component and a defined benefit component. The components are accounted for separately according to their substance. For example, an entity may have changed a defined benefit plan to allow employees a choice of remaining in the defined benefit plan or switching to a defined contribution plan. The defined contribution plan is not set up separately but remains combined with the defined benefit plan for plan funding purposes. In such cases, the defined benefit component is accounted for as a defined benefit plan and the defined contribution component is accounted for as a defined contribution plan.

DEFINED CONTRIBUTION PLANS

.014 In accounting for a defined contribution plan, an entity's obligation for each reporting period is determined by the amounts to be contributed for that period. Consequently, no actuarial valuation is required to measure the liability or the cost. When contributions are due in periods after an employee retires, the liability is measured on a discounted basis and actuarial gains or losses may occur. The liability is measured on an undiscounted basis when the contributions fall due within the period or within twelve months thereafter.

.015 ♦ *For a defined contribution plan, an entity should recognize a cost for a period comprising:*

(a) the current service cost for the period;

(b) the interest cost for the period on the estimated present value of any contributions required in future periods related to employee services rendered during the current period or prior periods;

(c) the amortization for the period of past service costs; and

(d) a reduction for the interest income for the period on any unallocated plan surplus. [JAN. 2000 *]

Current service cost

.016 ♦ *For a defined contribution plan, an entity should recognize as the current service cost of employee future benefits for a period:*

(a) the contributions required to be made by the entity in the period in exchange for employee services rendered during the period; and

(b) the estimated present value of any contributions required to be made by the entity in future periods related to employee services rendered during the period. [JAN. 2000]

.017 An entity's current service cost of the future benefits related to an employee's services rendered during a period is the present value of contributions it is required to pay for those services. Any difference between that amount and the net amount paid is recognized as a liability or an asset. When a plan calls for contributions in future periods, such as in periods following retirement or termination of employment, the estimated cost is recognized during the employee's service period.

Interest cost on contributions

.018 When an entity has accrued contributions required to be made in future periods as a result of employee services rendered during the current period or prior periods, the entity recognizes interest on those accrued contributions. The interest cost for the period is calculated by applying the discount rate determined in accordance with paragraph 3461.050 as of the beginning of the period (or end of the prior period) to the present value of the accrued contributions throughout that period. An undiscounted basis is inappropriate when a benefit plan requires contributions in a period more than twelve months into the future. A discounted basis most closely reflects the current actual cost of such contributions.

Past service costs

.019 ♦ *For a defined contribution plan, an entity should amortize past service costs arising from a plan initiation or amendment in a rational and systematic manner over the period during which the entity expects to realize economic benefits from the plan initiation or amendment.* [JAN. 2000]

.020 When a defined contribution plan is initiated or amended, an entity may agree to make contributions in respect of past service. The cost of contributions arising from a plan initiation or amendment is recognized in a rational and systematic manner over the period during which the entity expects to realize economic benefits from the plan initiation or amendment. This period may be the average remaining service period of active employees expected to receive benefits under the plan. However, a shorter period may be appropriate. For example, when an entity negotiates its union contracts, including the benefits package, every three years and usually agrees to changes in employees' benefit entitlements, it may

be appropriate for the entity to amortize any resulting past service costs over three years.

.021 Sometimes contributions for past services are made only for certain employees and are, in effect, made in exchange for services rendered in the current period. For example, some contributions in the current period may be part of remuneration based on current or prior years' profits or other measures of performance. The cost of such contributions is not deferred for amortization in future periods, since the entity has realized the related economic benefits in the current period.

Interest income on plan surplus

.022 ♦ *For a defined contribution plan, an entity should deduct the interest earned on any unallocated plan surplus in determining the cost for a period.* [JAN. 2000 *]

.023 When a defined benefit plan is converted to a defined contribution plan, some plan assets may not be allocated to employees' individual accounts, thereby creating a surplus in the defined contribution plan. Interest earned in periods subsequent to the conversion on any such unallocated plan surplus is deducted in determining the cost for the defined contribution plan for the period. Any such plan surplus, which would be recognized as an accrued benefit asset, is subject to the limit on the carrying amount of an accrued benefit asset (see paragraphs 3461.101-.110).

DEFINED BENEFIT PLANS

Definitions

.024 The following definitions are associated primarily with paragraphs 3461.025-.134:

(a) An **accrued benefit asset** is the amount of any asset recognized on an entity's balance sheet in respect of employee future benefits before deducting any valuation allowance that may be required. It is the sum of the entity's accumulated cash contributions less the sum of the current and prior years' benefit costs (before any change in valuation allowance).

(b) An **accrued benefit liability** is the amount of any liability recognized on an entity's balance sheet in respect of employee future benefits. It is the sum of the current and prior years' benefit costs less the entity's accumulated cash contributions.

(c) **Accrued benefit methods** are a family of actuarial valuation methods in which a distinct unit of future benefit is attributed to each year of credited service and the actuarial present value of that unit of benefit is computed separately for the period during which it is presumed to have accrued. Two accrued benefit methods are:

(i) **Accumulated benefit method** — Benefits earned to date are based on the plan formula, the employee's history of pay, service and other factors, as of the date of determination.

(ii) **Projected benefit method prorated on services** — Generally, an equal portion of the total estimated future benefit (i.e., with salary projection or cost escalation, when appropriate) is attributed to each year of service in the attribution period. Some plans define different amounts of benefits for different years of service. For such plans, this method will not necessarily attribute an equal

portion of the total estimated future benefit to each year of service in the attribution period (see paragraph 3461.042).

(d) An **accrued benefit obligation** is the actuarial present value of benefits attributed to employee services rendered to a particular date. As of a particular date prior to an employee's full eligibility date, an entity's accrued benefit obligation in respect of the employee is the portion of the obligation for employee future benefits attributed to that employee's service rendered to that date. On and after the full eligibility date, the accrued benefit obligation and obligation for employee future benefits for an employee are the same.

(e) **Actuarial gains and losses** are changes in the value of the accrued benefit obligation and the plan assets resulting from:

(i) experience different from that assumed; or

(ii) changes in an actuarial assumption.

(f) **Actuarial present value** is the discounted value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.

(g) An **attribution period** is the period of an employee's service to which an obligation for employee future benefits is assigned.

(h) A **credited service period** is the employee service period for which benefits are earned pursuant to the terms of a benefit plan. The beginning of a credited service period may be the date of hire or a later date. For example, a plan may provide benefits only for service rendered after a specified age or period of employment.

(i) **Fair value** is the amount of the consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act.

(j) The **full eligibility date** is the date at which an employee has rendered all of the service necessary to earn the right to receive all of the benefits expected to be received by that employee (including any beneficiaries and dependants expected to receive benefits). Determination of the full eligibility date is affected by plan terms that provide incremental benefits expected to be received by or on behalf of an employee for additional years of service, unless those incremental benefits are insignificant.

(k) A **funded benefit plan** is a benefit plan in which the reporting entity is setting aside assets to pay the costs of benefits as they become due. The assets are set aside by the reporting entity in a separate legal entity, generally a trust, and the reporting entity cannot use the assets so set aside for its own purposes. When benefits become payable, they are paid out of the trust directly to the employees. Pension plans are generally funded because of legal requirements to set assets aside.

(l) An **obligation for employee future benefits** is the actuarial present value as of a particular date of benefits expected to be paid under a defined benefit plan. The obligation is measured on the basis of the expected amount and timing of future benefits, taking into consideration the expected future cost of providing the benefits and the extent to which the costs are shared by employees or others.

(m) **Plan assets** are assets that have been segregated and restricted in a trust or other legal entity separate from a reporting entity to provide for employee future benefits under the following conditions:

(i) The assets of the separate entity are to be used only to settle the related accrued benefit obligation, are not available to the reporting entity's own creditors, and either cannot be returned to the reporting entity or can be returned to the reporting entity only if the remaining assets of the trust are sufficient to meet the plan's obligations.

(ii) To the extent that sufficient assets are in the separate entity, the reporting entity will have no obligation to pay the related employee future benefits directly.

Plan assets include any financial instruments issued by the reporting entity and held by the trust or other legal entity. For the purposes of this Section, plan assets do not include amounts held by the reporting entity and not yet paid into the trust or other legal entity. Plan assets may include certain arrangements with insurance enterprises (see paragraphs 3461.122-.126).

(n) A **transitional asset** is the unrecognized amount, if any, as of the beginning of the fiscal year to which this Section is first applied, determined as:

(i) the fair value of plan assets less the accrued benefit obligation;

(ii) less any accrued benefit asset or plus any accrued benefit liability.

An entity may have adopted a method of accounting in accordance with this Section prior to its issuance. In that case, a transitional asset is not re-determined.

(o) A **transitional obligation** is the unrecognized amount, if any, as of the beginning of the fiscal year to which this Section is first applied, determined as:

(i) the accrued benefit obligation less the fair value of plan assets;

(ii) plus any accrued benefit asset or less any accrued benefit liability.

An entity may have adopted a method of accounting in accordance with this Section prior to its issuance. In that case, a transitional obligation is not re-determined.

(p) An **unamortized transitional asset or unamortized transitional obligation** is the portion of a transitional asset or transitional obligation that has not been recognized in the financial statements.

(q) An **unfunded benefit plan** is a benefit plan in which an entity pays all of the costs of benefits directly to its employees, their beneficiaries or estates, or to a third-party service provider on behalf of the employees, as the amounts become due.

Introduction

.025 The objective of accounting for a defined benefit plan is to provide an appropriate allocation of the cost of the plan to the periods in which the related employee services are rendered. Accounting for defined benefit plans involves the use of an actuarial valuation and actuarial assumptions. The accrued benefit obligation is measured on a discounted basis because it may be discharged

many years after an employee renders the related service. There is a possibility of actuarial gains and losses as a result of differences between actuarial assumptions and actual experience. The cost recognized for a defined benefit plan for a period is not necessarily the amount of any contribution required for that period for funding purposes. The actuarial assumptions used for funding purposes may differ from those used for accounting purposes because funding is a financing procedure that considers cash requirements and other matters such as pension legislation. When an entity has more than one defined benefit plan, the entity accounts separately for each separately measured plan (see paragraphs 3461.096-.100).

.026 Defined benefit plans may be unfunded, or they may be wholly or partly funded by contributions by an entity and, sometimes, by its employees. Contributions are paid into a fund or a trust that is legally separate from the reporting entity and from which the employee benefits are paid. The adequacy of the fund to make all benefit payments as they fall due depends on the investment performance of the assets in the fund and the extent to which the amount and timing of benefit payments coincide with previous estimates made in funding valuations. The payment of benefits depends not only on the financial position of the fund but also on an entity's ability to make good any shortfall in the fund's assets. Therefore, the entity is, in substance, underwriting the actuarial and investment risks associated with the plan.

.027 Accounting by an entity for a defined benefit plan includes the following steps:

(a) making estimates (actuarial assumptions) about demographic variables (such as employee turnover and mortality) and financial variables (such as future increases in salaries and medical costs) that will affect the cost of employee future benefits (see paragraphs 3461.047-.065);

(b) determining the obligation for employee future benefits, using actuarial techniques to make a reliable estimate of the present value of employees' future benefits;

(c) attributing the cost of benefits to employee service periods in order to determine the accrued benefit obligation and the current service cost (see paragraphs 3461.034-.043);

(d) determining the interest cost on the accrued benefit obligation (see paragraphs 3461.050-.055 and 3461.075);

(e) determining the fair value of any plan assets (see paragraphs 3461.066-.068);

(f) determining the expected return on plan assets (see paragraphs 3461.076-.078);

(g) when a plan has been initiated or amended, determining the resulting past service costs and the amount of those past service costs to be recognized (see paragraphs 3461.079-.086);

(h) determining the total amount of actuarial gains and losses and the amount of those actuarial gains and losses to be recognized (see paragraphs 3461.087-.093);

(i) when a plan has an accrued benefit asset which is subject to impairment, determining the necessary valuation allowance (see paragraphs 3461.101-.110); and

(j) when a plan has been curtailed or settled, determining the resulting gain or loss (see paragraphs 3461.111-.134).

.028 In some circumstances, estimates, averages and computational shortcuts may provide a reliable approximation of the detailed computations required by this Section.

Recognition

.029 ♦ *For a defined benefit plan, an entity should recognize a liability and a cost for employee future benefits, other than post-employment benefits and compensated absences that do not vest or accumulate, in the period in which employees render services to the entity in return for the benefits. An entity should recognize a liability and a cost for post-employment benefits and compensated absences that do not vest or accumulate when the event that obligates the entity occurs.* [JAN. 2000 *]

.030 A liability for pension benefits and other retirement benefits, as well as certain post-employment benefits and compensated absences, is accrued over the period in which service is rendered. For pension benefits, the right to benefits usually vests and the amount usually increases with the length of service provided by the employee. For other retirement benefits, the amount of benefits is not necessarily increased by the length of service provided by the employee but the right to benefits is earned either by the employee working a specified period of time, attaining a specified age while in service, or both. For certain post-employment benefits and compensated absences, the right to the benefit is earned by the employee rendering service and, based on the length of service provided, the amount of the benefit can increase.

.031 For post-employment benefits and compensated absences that vest or accumulate, a liability is accrued as employees render the service that gives rise to the benefits. Examples of these types of post-employment benefits and compensated absences are service-related long-term disability benefits, sabbaticals in which the leave is granted to provide unrestricted time off for past service, or vacation days that accumulate and are paid out when the employee retires. However, under some sabbatical arrangements, leave is granted only for an employee to perform research or public service to enhance the reputation of, or otherwise benefit, the entity. In such circumstances, a liability is not accrued in advance for the cost of the employee's services during such leave. In addition, as a practical matter, an entity is not required to accrue a liability for sick-pay benefits that accumulate but do not vest.

.032 For post-employment benefits and compensated absences that do not vest or accumulate, a liability is recognized when an event that obligates the entity occurs. Examples of these types of benefits and absences are parental leave and non-service-related, short-term and long-term disability benefits.

.033 The terms of a plan may allow an entity to cancel the benefits. It is usually difficult for an entity to cancel benefits and retain its employees without providing some form of compensation. In the absence of evidence to the contrary, accounting for the cost of employee future benefits is based on the premise that an entity that is currently providing future benefits to employees under an existing plan will continue to do so over the remaining service lives of those employees, whether or not a legal obligation exists. Actuarial valuation methods allow the obligation for employee future benefits to be measured with sufficient reliability to justify recognition of the cost of those benefits during employees'

working lives and, to the extent the cost is unpaid or unfunded, the related liability.

Examples

(a) Pension benefits — Employees are eligible to join a pension plan when they are hired. The pension benefit is $30 a month for each year of service. The benefits vest after ten years of service. A liability and a cost are recognized as an employee provides service from the date of hire, even though the benefits do not vest until after ten years of service.

(b) Sabbatical — Employees are entitled to take a sabbatical leave of one year with full pay after each six years of service. There is no restriction on employees' activities during their sabbatical leave. A liability and a cost are recognized over the six years following the date of hire or the date of completion of the last sabbatical leave, as the case may be.

(c) Parental leave — Employees are entitled to receive 50 percent of their current salary for up to six months when they take parental leave on the birth or adoption of a child. The entity does not recognize any liability until an employee applies for parental leave, at which point the entity recognizes a liability for the full duration of the leave. In this case, the application for leave is the event that obligates the entity.

Measurement

Actuarial valuation method

.034 ♦ *For a defined benefit plan, an entity should determine its accrued benefit obligation using:*

(a) the projected benefit method prorated on services, when future salary levels or cost escalation affect the amount of the employee future benefits; or

(b) the accumulated benefit method, when future salary levels and cost escalation do not affect the amount of the employee future benefits. [JAN. 2000]

.035 An accrued benefit method attributes a distinct unit of future benefit to each year of credited service, and the actuarial present value of that unit is computed separately for the period in which it is deemed to have been earned.

.036 For certain benefit plans, such as career-average and final-pay pension plans and retiree health care plans, future salary levels or cost escalation affect the amount of the future benefits. For these plans, the cost of benefits provided in exchange for employee services is determined using the projected benefit method prorated on services. For flat-benefit plans in which benefits vary only with periods of service rendered without any commitment to change the benefit level, the projected benefit method prorated on services is equivalent to the accumulated benefit method.

.037 The amount of an obligation for employee future benefits is determined from actuarial valuations performed periodically. In the years between valuations, an extrapolation of the actuarial valuation of the obligation is used. Each year, management reviews matters such as changes to the plan, the actuarial assumptions, occurrence of settlements and curtailments, changes to the employee group and the rate of return on plan assets, and determines whether such matters necessitate any adjustments to the extrapolations. When the effect of any change is significant, a new valuation may be necessary.

Attribution

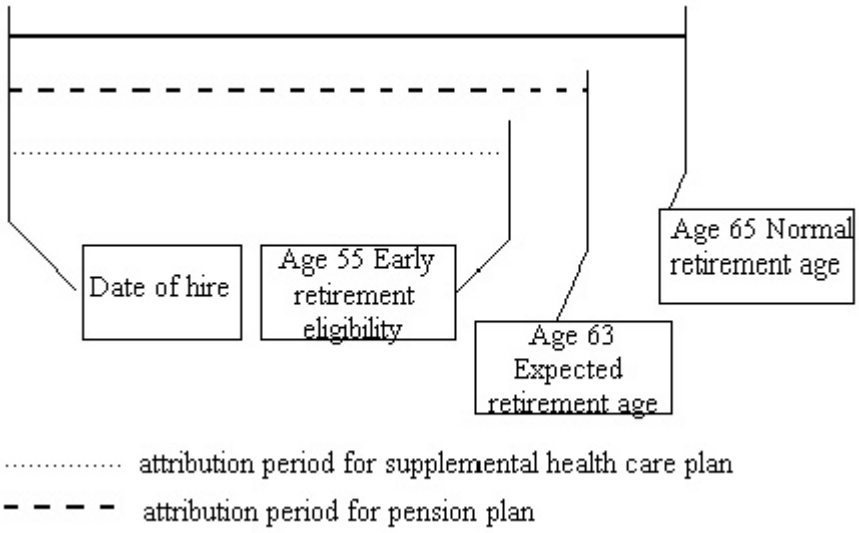
.038 ♦ *For a defined benefit plan, the attribution period should begin on an employee's date of hire unless the plan's benefit formula grants credit for service only from a date after the date of hire. When the plan's benefit formula grants credit for service only from a date after the date of hire, the attribution period should begin at the commencement of the credited service period. However, when the plan's benefit formula grants credit for service only from a date after the date of hire and the credited service period is insignificant relative to the total service period, the obligation for employee future benefits should be attributed from the date of hire. The attribution period should end on the full eligibility date.* [JAN. 2000]

.039 An obligation for employee future benefits is attributed to the periods in which an employee renders the service that gives rise to the benefits. For plans in which an employee starts earning benefits when hired, attribution starts from the date of hire. Some plans require an employee to work for a short period of time after the date of hire before earning benefits. When a plan has a credited service period that is significant, and a qualification period that is insignificant, in relation to the employee's total years of service prior to full eligibility, the obligation for employee future benefits is attributed from the start of the credited service period stipulated by the plan. When a plan has a credited service period that is insignificant, and a qualification period that is significant, compared to an employee's total years of service prior to full eligibility, the obligation for employee future benefits is attributed from the date of hire and not from the start of the credited service period stipulated by the plan.

.040 Some benefit plans provide incremental benefits for additional years of service beyond the end of the credited service period. For example, in certain pension plans that limit credited service periods to a maximum number of years but take subsequent salary increases into account in determining the amount of pension entitlements, significant incremental benefits can be earned beyond the end of the credited service period. In such circumstances, the attribution period may end either at retirement or at the end of the credited service period. For benefit plans, other than pension plans, that provide significant incremental benefits after the credited service period, the attribution period ends at the full eligibility date when additional benefits are no longer earned by rendering further service. For all benefit plans, when incremental benefits are insignificant, the attribution period is not extended for additional years of service.

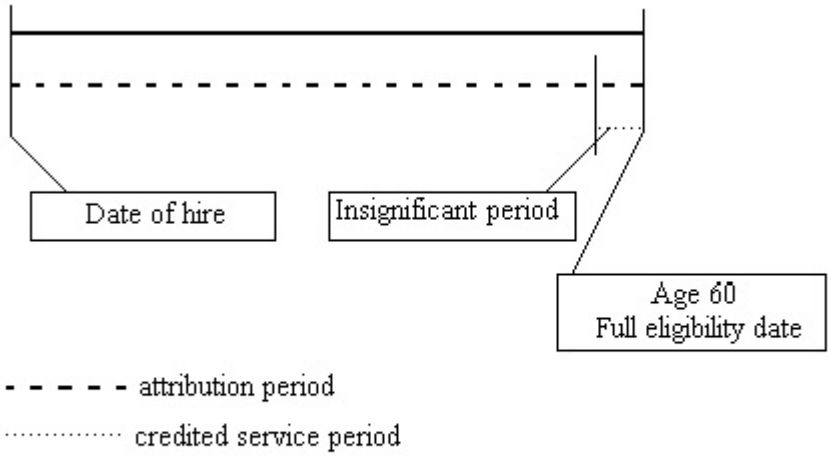
Examples

(a) A company has a defined benefit plan specifying that employees join the plan when they are hired. The plan provides a final average earnings pension upon retirement and employees become eligible for supplemental health care benefits when they become eligible for early retirement. The earliest age at which someone can retire and receive benefits under the plan is 55, the expected retirement age is 63 and the normal retirement age is 65.

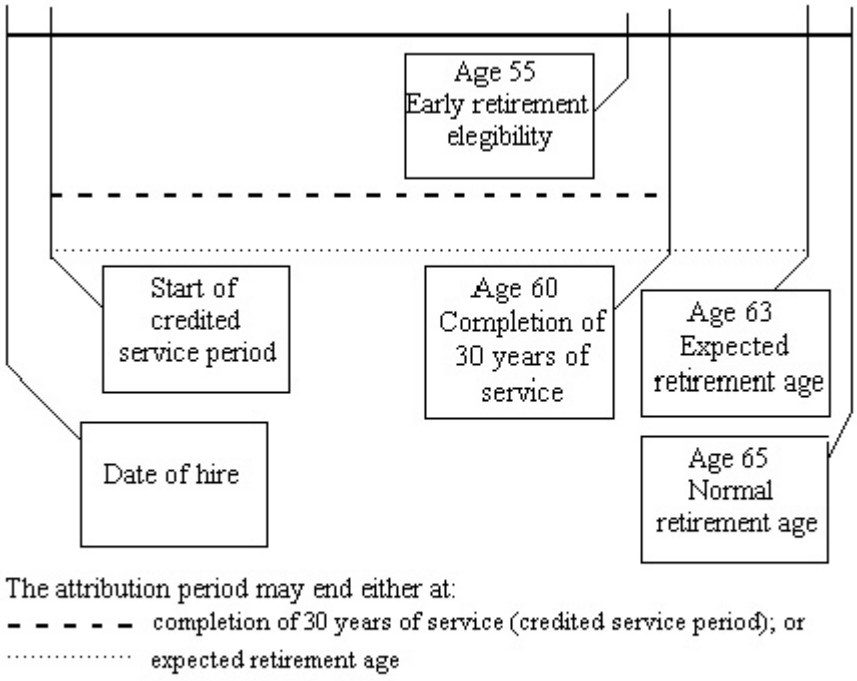


The attribution period for the supplemental health care plan starts at the date of hire and ends when an employee becomes eligible to retire, at age 55. The attribution period for the pension plan also starts at the date of hire but ends at the expected retirement age of 63. The attribution period for the supplemental health plan is shorter because the employee has fulfilled the eligibility provisions of the plan upon becoming eligible for early retirement and is entitled to the benefits upon retirement. No further benefit is conferred on the employee in the years between becoming eligible for early retirement and expected retirement age. The attribution period for the pension plan is longer because the employee continues to earn additional pension benefits in the years between becoming eligible for early retirement and the expected retirement age.

(b) A company has a benefit plan with a formula that provides 100 percent benefit coverage for service for the year in which an employee attains age 60. The plan has a one-year credited service period. Employees are expected to have rendered an average of 20 years of service at the age of 60. Accordingly, the credited service period is insignificant in relation to total years of service prior to full eligibility. In these circumstances, the service cost is recognized from the date of hire to age 60.

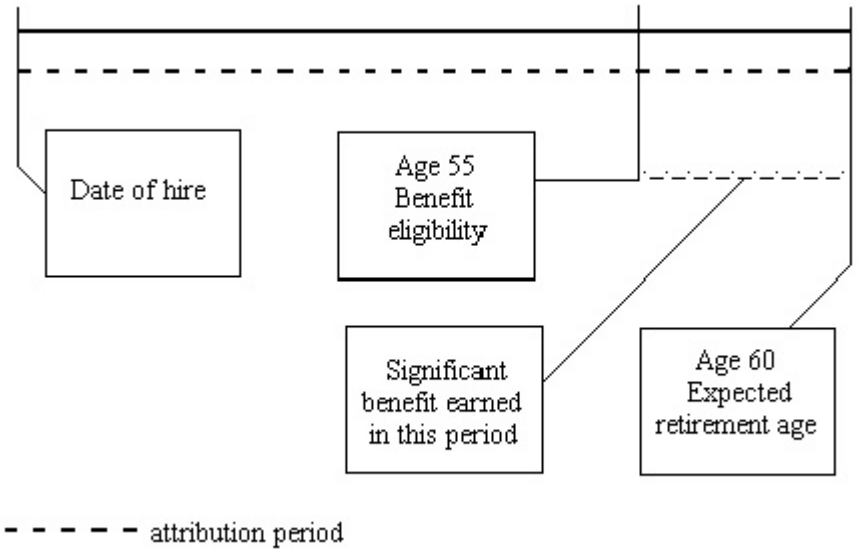


(c) A company has a pension plan for its employees providing a pension for each year of membership in the plan equal to one and a half percent multiplied by the average of the highest five consecutive years of pensionable earnings. Employees become eligible to join the plan after two years of service. Employees do not earn any benefits in the two years of service after the date of hire and before joining the plan. Employees do not earn additional pension benefits after having provided 30 years of service. The earliest age at which an employee may become eligible for retirement is 55, the expected retirement age is 63 and the normal retirement age is 65. Employees are expected to have rendered an average of 30 years of service at age 60.



The attribution period for an employee starts two years after the date of hire and may end either at the attainment of the expected retirement age or at the completion of 30 years of service (the credited service period).

(d) A company has a plan that provides life insurance benefits to employees who render 20 years of service and attain the age of 55 while in service. The benefit amount under the policy is equal to 20 percent of salary in the final year of service. A 55-year-old employee currently earning a salary of $90,000 has worked for the company for 22 years. The employee is expected to retire at age 60 and is expected to be earning $120,000 at that time. The employee is eligible for life insurance coverage under the plan at age 55, when the employee has met the age and service requirements. However, because the employee's salary continues to increase each year, the employee is not eligible for the full expected benefit until retirement at age 60 because an incremental benefit is earned for each additional year of service beyond age 55. That is, the employee earns an additional benefit, from age 55 to retirement at age 60, equal to 20 percent of the increase in salary for service during each of those years.



.041 For plans providing post-employment benefits and compensated absences that vest or accumulate, the attribution period generally starts at the date of hire and ends at the expected date of the event giving rise to the obligation for employee future benefits.

Attribution method

.042 ♦ *For a defined benefit pension plan, the obligation for employee future benefits should be attributed to each year of service in the attribution period based on the plan's benefit formula, except when the plan does not state or imply a benefit formula or when an employee's service in later years will lead to a significantly higher level of benefit than in earlier years. In those circumstances, the obligation should be attributed on a straight-line basis to each year of service in the attribution period. For a defined benefit plan other than a pension plan, the obligation for employee future benefits should be attributed on a straight-line basis to each year of service in the attribution period unless the plan formula attributes a significantly higher level of benefits to employees' early years of service. In those circumstances, the obligation should be attributed based on the plan's benefit formula.* [OCT. 2000]

.043 Different plans have different formulae for determining benefits:

(a) Some plans have benefit formulae that attribute all, or a significantly higher level, of the total benefits to later years of service, thereby achieving, in substance, a delayed vesting of benefits. The obligation for employee future benefits for these types of plans is attributed on a straight-line basis over each year in the attribution period because the employee has earned benefits in each of the years in the credited service period.

(b) Some plans have terms that make it difficult to attribute benefits to years of service following a plan benefit formula. Plan terms may be ambiguous and quite difficult to apply at dates between the beginning and end of the attribution period. Thus, for a defined benefit plan other than a pension plan, the obligation for employee future benefits is attributed on a straight-line basis over each year in the attribution period unless the plan's benefit formula attributes a significantly higher level of benefits to

the employees' early years of service, in which case, attribution is based on the plan's benefit formula.

(c) For plans providing post-employment benefits and compensated absences that vest or accumulate, the attribution method may follow the standards for a defined benefit pension plan or a defined benefit plan other than a pension plan, provided the basis chosen is applied consistently from year to year.

Measurement date of plan assets and accrued benefit obligation

.044 ♦ *For a defined benefit plan, the plan assets and the accrued benefit obligation should be measured as of the date of the annual financial statements, except that they may be measured as of a date not more than three months prior to that date provided the entity adopts this practice consistently from year to year.* [JAN. 2000]

Measurement of cost for employee future benefits

.045 ♦ *For a defined benefit plan, the measurement of cost in both interim and annual financial statements should be based on the assumptions used in measuring the plan assets and the accrued benefit obligation at the preceding year end, unless a more recent measurement of both the plan assets and the accrued benefit obligation is available. When available, more recent information should be used.* [JAN. 2000 *]

.046 A remeasurement is usually called for when a significant event such as a plan amendment, settlement or curtailment occurs. The assumptions adopted for a remeasurement are used in determining the cost for employee future benefits from the date of the significant event to the year-end measurement date. The measurement of the cost for the period from the beginning of the year to the date of the significant event is based on the assumptions at the beginning of the year.

Actuarial assumptions

.047 ♦ *For a defined benefit plan, each actuarial assumption should be management's best estimate solely with respect to that individual assumption, determined on the basis that the plan will continue to be in effect in the absence of evidence to the contrary. The set of actuarial assumptions for each plan should be internally consistent.* [JAN. 2000]

.048 Actuarial assumptions include:

(a) demographic assumptions about the future characteristics of employees and their beneficiaries who are eligible for benefits, including:

(i) mortality, both during and after employment;

(ii) rates of employee turnover, disability and early retirement;

(iii) the proportion of employees with their beneficiaries eligible for benefits; and

(iv) per capita claims cost by age and by type of benefit;

and

(b) financial assumptions, including:

(i) the discount rate for future cash flows;

(ii) future salary and benefit levels;

(iii) future medical costs, in the case of medical benefits; and

(iv) the rate of return on plan assets.

.049 In making actuarial assumptions, management takes into account the relationships between the factors for which assumptions are required, and keeps the assumptions internally consistent. For example, the level of inflation underlying the assumption about future rates of return on plan assets is the same as the level of inflation underlying the assumption about future salary levels. All assumptions are based on the presumption that the plan will continue in effect in the absence of evidence that it will not continue.

Discount rate

.050 ♦ *For a defined benefit plan, the discount rate used to determine the accrued benefit obligation should be an interest rate determined by reference to:*

(a) market interest rates at the measurement date on high-quality debt instruments with cash flows that match the timing and amount of expected benefit payments; or

(b) the interest rate inherent in the amount at which the accrued benefit obligation could be settled. [JAN. 2000]

.051 The objective of selecting a discount rate is to measure the single amount that, if invested at the measurement date in a portfolio of high-quality debt instruments, would provide the necessary pre-tax cash flows to pay the accrued benefits when due. For example, the current market value of a portfolio of high-quality zero coupon bonds acquired to pay the cost of benefits, when due, equals the amount of the actuarial present value of the benefits because cash inflows equal cash outflows in timing and amount. There is no reinvestment risk in the yields to maturity of the portfolio. However, in other than a zero coupon portfolio, such as a portfolio of long-term debt instruments that pay interest semi-annually or have maturities that do not extend far enough into the future to meet expected benefit payments, the discount rate (the yield to maturity) needs to incorporate reinvestment rates expected to be available in the future. Those reinvestment rates are extrapolated from the existing yield curve at the measurement date.

.052 When rates on high-quality corporate bonds are available, they are used to determine the discount rate. When the maturities of corporate bonds do not extend far enough into the future to match the cash flows inherent in the accrued benefit obligation, the rates on government bonds are used to determine the discount rate for the expected benefit payments that are farther into the future than the corporate bond maturities.

.053 The discount rate reflects the estimated timing of benefit payments. When some benefits are payable after the maturity of all available corporate or government bonds, the present value of that portion of the benefits is unlikely to vary significantly as a result of the selected discount rate. For that portion of the benefits, an entity may use a discount rate based on the yield of the last maturing corporate or government bond available.

.054 The discount rate is re-evaluated at each measurement date. When long-term interest rates rise or decline, the discount rate changes in a similar manner.

.055 Immediate settlement of an accrued benefit obligation may be possible through, for example, the purchase of an insurance contract, such as an annuity contract, that transfers the significant risks associated with the accrued benefit obligation to a third-party insurer. In such circumstances, the interest rate inherent in the

amount at which the accrued benefit obligation could be settled may be used in determining the discount rate.

Future changes in compensation levels, benefits and cost sharing

.056 ♦ *For a defined benefit plan, the accrued benefit obligation should be measured on a basis that takes account of:*

(a) future compensation levels;

(b) expected changes in benefits defined in monetary terms;

(c) automatic benefit changes specified by the plan that are expected to occur; and

(d) expected amendments in the cost-sharing provisions of the benefit plan. [JAN. 2000]

.057 An accrued benefit obligation is measured using assumed future compensation levels when the benefit formula is based on future compensation levels. Therefore, all expected changes in future compensation, whether due to general price level inflation, seniority, promotion, productivity increases or other factors, such as supply and demand in the employment market, are included in the measurement of the accrued benefit obligation. Examples of the types of plans in which the benefit formula is based on future compensation levels are career-average, final-pay benefit plans and salary-related life insurance benefit plans. For certain flat-benefit plans, benefits vary only with periods of service rendered. For these plans, future compensation levels do not enter into the determination of the accrued benefit obligation.

.058 A past practice of regular increases in future benefits defined in monetary terms (i.e., a defined dollar amount of benefit or a defined percentage of salary) may indicate that an entity has a present commitment to provide monetary benefits attributable to past service that are greater than the monetary benefits defined by the written plan. When an entity has a substantive commitment to increase benefits, the increased level of benefits forms the basis to measure the accrued benefit obligation. For example, a regular practice of updating the base year of a career-average pension plan or of providing regular increases in the benefit under a flat-benefit plan may indicate that the benefit plan encompasses these increases.

.059 Automatic benefit changes specified by a benefit plan and expected to occur are included in the measurement of the accrued benefit obligation. Examples of automatic benefit changes are:

(a) specified cost-of-living adjustments; and

(b) changes in the cost of benefits in kind, such as health care benefits, that are provided through the direct rendering of services, payment directly to service providers or reimbursement of employees' payments for those services.

.060 A plan amendment is taken into account in the measurement of an accrued benefit obligation once it is agreed to, even when some provisions begin to take effect only in future periods. For example, if a plan amendment grants a different benefit level for employees retiring after a specified future date, the current period measurements of the accrued benefit obligation and the benefit cost take into account the increased or reduced benefit level for employees expected to retire after the specified future date.

.061 Except in the circumstances discussed in paragraph 3461.062, an entity's cost-sharing policy constitutes part of the substance of the cost-sharing provisions of a benefit plan. An entity's cost-sharing policy is evident when:

(a) the entity has had a practice of:

(i) maintaining a consistent level of cost sharing with its employees; or

(ii) increasing or reducing its share of the cost of covered benefits consistently through changes in employees' contributions towards their benefits, deductibles, co-insurance provisions, out-of-pocket limitations, or some combination thereof;

or

(b) the entity has the ability, and has communicated to affected employees and their beneficiaries its intent, to institute different cost-sharing provisions at a specified time or when certain conditions exist (for example, when health care cost increases exceed a certain level).

.062 An entity's past practice of maintaining a consistent level of cost sharing is not part of the substance of a benefit plan when accompanied by identifiable offsetting changes in other benefits or compensation or when the entity has incurred significant costs, such as work stoppages, to effect that cost-sharing policy. Similarly, an entity's communication of its intent is not part of the substance of a benefit plan when employees are unwilling to accept the change, thereby creating the potential for adverse consequences to the entity's operations, or when some compensation, including other modifications to plan benefits, is required to gain the employees' acceptance.

.063 In the case of benefit plans providing medical coverage, certain medical claims may be covered by governmental programs under existing law or by other providers of health care benefits. Benefit coverage by governmental programs is assumed to continue as provided by the present law and by other providers pursuant to their present plans. Enacted changes in the law or amendments to the plans of other health care providers that will take effect in future periods and affect the future level of their benefit coverage are taken into account in current period measurements of plan benefits expected to be provided in those future periods. Future changes in laws concerning medical costs covered by governmental programs and future changes in the plans of other providers are not anticipated.

Medical costs

.064 ♦ *For a defined benefit plan, actuarial assumptions about medical costs should reflect expected future changes in the cost of medical services resulting from general price-level inflation, specific changes in the prices of medical services, and changes in medical practices and technology.* [JAN. 2000]

.065 Measurement of the cost of future medical benefits requires assumptions about the level and frequency of future claims and the cost of meeting those claims. The level and frequency of claims are particularly sensitive to the age of employees (and their beneficiaries) and may be sensitive to other factors, such as gender and geographical location. An entity estimates future medical costs on the basis of historical data about its own experience, supplemented when necessary by historical data from other entities, insurance enterprises, medical providers or other sources. Historical data from other entities is adjusted to reflect any differences in demographic mix of the population. Historical data,

either from the reporting entity or other entities, is also adjusted when there is reliable evidence that historical trends will not continue.

Plan assets

.066 ♦ *For a defined benefit plan, plan assets should be measured at fair value.* [JAN. 2000]

.067 The fair value of plan assets is used in the determination of plan surplus or deficit (funded status) and is disclosed in accordance with paragraph 3461 .154(e)(i). Either fair value or market-related value is used for the calculation of the expected return on plan assets (see paragraph 3461 .076) and the determination of the minimum amount of amortization of net actuarial gains and losses (see paragraph 3461 .087).

.068 The fair value of plan assets is normally market value. When market values are not readily available for certain assets, such as real estate investments, a method that provides an approximation of market value is used. For example, an entity may obtain independent appraisals or review market values of similar assets (see FINANCIAL INSTRUMENTS — RECOGNITION AND MEASUREMENT, Section 3855, for additional guidance concerning the determination of fair value of financial instruments).

Determination of cost for the period

.069 The following paragraphs apply to the determination of the cost for a period arising from a defined benefit plan. An entity that has a separately measured plan for post-employment benefits and compensated absences that do not vest or accumulate recognizes past service costs and actuarial gains and losses in income in accordance with the following paragraphs, either on a delayed basis or immediately. The selected method of recognition is applied consistently from year to year. Any transitional obligation or transitional asset resulting from the initial application of this Section is accounted for in accordance with paragraphs 3461 .164-.172. Illustrative computations are provided in Illustrative Examples, Example 1.

Components of cost for the period

.070 ♦ *For a defined benefit plan, cost for a period should comprise:*

(a) the current service cost, determined in accordance with paragraph 3461 .071;

(b) the interest cost on the accrued benefit obligation, determined in accordance with paragraph 3461 .075;

(c) the expected return on plan assets, determined in accordance with paragraph 3461 .076;

(d) the amortization of past service costs arising from a plan initiation or amendment, determined in accordance with paragraph 3461 .079;

(e) the amortization of a net actuarial gain (loss), determined in accordance with paragraph 3461 .087;

(f) the amount recognized as a result of a temporary deviation from the plan, determined in accordance with paragraph 3461 .094;

(g) the increase or decrease in a valuation allowance against the carrying amount of an accrued benefit asset, determined in accordance with paragraph 3461 .102;

(h) the gain or loss on a settlement or curtailment, determined in accordance with paragraphs 3461.113-.114 *and* 3461.127-.128*;*

(i) the expense recognized for a termination benefit, determined in accordance with paragraphs 3461.136-.138*;*

(j) the amortization of a transitional asset or transitional obligation, determined in accordance with paragraph 3461.167*; and*

(k) the amortization of an amount carried forward arising on the initial application of this Section related to the limit on the carrying amount of an accrued benefit asset, determined in accordance with paragraph 3461.167. [JAN. 2000 *]

Current service cost

.071 ♦ *For a defined benefit plan, an entity should determine its current service cost for a period as the actuarial present value of benefits attributed to employees' services rendered during that period in accordance with paragraphs* 3461.038 *and* 3461.042*, reduced to reflect employee contributions.* [JAN. 2000]

.072 Contributions towards the cost of retirement benefits may be received from active employees or from retirees. For example, employees may contribute to a pension plan during their service life and retirees may contribute towards the cost of a drug plan.

.073 Contributions received during a period from active employees towards the cost of a pension plan reduce the current service cost in the period.

.074 When contributions are expected to be received from employees in future periods towards the cost of retirement benefits other than pensions, an entity's accrued benefit obligation is measured as the actuarial present value of the benefits expected to be provided, reduced by the actuarial present value of contributions expected to be received from employees in future periods. In determining the amount of those contributions, an entity considers any related plan provisions, such as its past practice of consistently increasing or reducing the contribution rate as described in paragraphs 3461.061-.062. An obligation to return contributions received from employees who do not attain eligibility for future benefits, together with any interest accrued on those contributions, is recognized as a component of an entity's accrued benefit obligation. These factors are reflected also in an entity's current service cost.

Interest cost on accrued benefit obligation

.075 ♦ *For a defined benefit plan, the interest cost on an accrued benefit obligation for a period should be determined by applying the discount rate determined in accordance with paragraph* 3461.050 *as of the beginning of the period (or end of the prior period) to the accrued benefit obligation for that period.* [JAN. 2000 **]

Expected return on plan assets

.076 ♦ *For a funded defined benefit plan, the expected return on plan assets should be based on the expected long-term rate of return on plan assets and the fair value, or a market-related value, of plan assets.* [JAN. 2000]

.077 A market-related value is a calculated amount that recognizes changes in the fair value of plan assets in a systematic and rational manner over a period not exceeding five years. Different ways of calculating market-related value may be used for different classes of assets. For example, an entity may use a fair value for bonds and a five-year moving average value for equities, but the basis of

determining market-related value is applied consistently from year to year for each asset class.

.078 When plan assets are held in a taxable entity, the expected return on plan assets reflects the income and related tax expense or benefit for the period determined in accordance with INCOME TAXES, Section 3465. In other circumstances, no provision for income and related taxes is included in the expected return on plan assets.

Past service costs

.079 ♦ *For a defined benefit plan, an entity should amortize past service costs arising from a plan initiation or amendment by assigning an equal amount to each remaining service period up to the full eligibility date of each employee active at the date of the plan initiation or amendment who was not yet fully eligible for benefits at that date. However, when all, or almost all, of the employees are no longer active, an entity should amortize past service costs on a straight-line basis over the average remaining life expectancy of the former employees.* [JAN. 2000]

.080 When a defined benefit plan is initiated or amended, an entity may grant benefits calculated by reference to past service. Plan initiations that grant benefits for past service and plan amendments that improve benefits are granted with the expectation that the entity will realize economic benefits in future periods. Therefore, the past service costs resulting from the plan initiation or amendment are not recognized fully in income in the period in which the initiation or amendment takes place. Rather, the past service costs are amortized over the service periods in which the entity expects to realize the economic benefit. This period ends when an employee reaches the full eligibility date under the plan. At the full eligibility date, the entity will have accrued all of the obligation for employee future benefits including any past service costs relating to that obligation. When a plan is initiated that grants benefits solely in exchange for employee service after the date of the plan initiation or a future date, the credited service period for employees who are active at the date of the plan initiation and expected to receive benefits under the plan begins at the date of the plan initiation or the future date.

.081 To reduce the complexity and detail of required calculations, an entity may use an alternative amortization approach that amortizes past service costs more rapidly. Once chosen, the alternative amortization approach is used consistently from year to year. For example, it is usually acceptable to amortize past service costs on a straight-line basis over the average remaining service period of active employees expected to receive benefits under the plan up to the full eligibility date.

.082 In some circumstances, the period to the full eligibility date of employees covered by a benefit plan is not the period during which the benefits of past service costs will be realized and a shorter amortization period is appropriate. In those circumstances, the amortization of past service costs is accelerated to reflect a more rapid expiration of the entity's economic benefits. A history of regular plan amendments and other evidence may indicate that the period during which an entity expects to realize economic benefits from an amendment granting increased benefits is shorter than the average remaining service period of active employees to the full eligibility date for benefits covered by the plan. For example, when an entity negotiates its union contracts, including the

benefits package, every three years and as a result the entity generally renegotiates its benefits, it may be appropriate to amortize the past service costs over three years. Identification of such situations requires an assessment of the circumstances of each plan.

.083 In some circumstances, an entity may amend a benefit plan to provide increased benefits calculated by reference to past service and all, or almost all, of those entitled to the increased benefits are no longer active because they have retired, left the entity or had their employment terminated by the entity prior to the plan amendment. The entity amortizes past service costs and other amounts, such as actuarial gains and losses and any transitional obligation or transitional asset, on a straight-line basis over the average remaining life expectancy of the former employees. The average remaining life expectancy of the former employees is an actuarial assumption underlying the computation of an entity's accrued benefit obligation and the related unamortized amounts.

.084 A plan amendment may reduce, rather than increase, an entity's accrued benefit obligation. A reduction in the accrued benefit obligation is applied first to reduce any existing unamortized past service costs and then to reduce any existing unamortized transitional obligation. The excess, if any, is amortized on the same basis as specified in paragraph 3461.079 for past service costs.

.085 When a defined benefit plan is cancelled and replaced by another defined benefit plan, the cancellation of the first plan is treated as a plan amendment. In such circumstances, any gain or loss is associated with the services to be rendered by employees over the expected period to their full eligibility date under the new plan and, accordingly, is amortized over that period.

.086 For a separately measured plan providing post-employment benefits or compensated absences that do not vest or accumulate, an entity recognizes past service costs:

(a) immediately in the period in which they arise; or

(b) over a period linked to the type of benefit.

For example, past service costs arising under a plan providing long-term disability benefits to former employees may be amortized over the average expected period during which benefits will be paid. Once chosen, the basis for recognizing past service costs is applied consistently from year to year.

Actuarial gains and losses

.087 ♦ *For a defined benefit plan, an entity should use a systematic method of recognizing actuarial gains and losses in income. An entity should recognize at least the minimum amortization determined in accordance with paragraph* 3461.088 *in each period, and may recognize actuarial gains and losses in income immediately. The method adopted should be applied consistently to both gains and losses.* [JAN. 2000]

.088 ♦ *For a defined benefit plan, an entity should recognize amortization of actuarial gains and losses in a period in which, as of the beginning of the period, the unamortized net actuarial gain or loss exceeds 10 percent of the greater of:*

(a) the accrued benefit obligation at the beginning of the year; and

(b) the fair value, or market-related value, of plan assets at the beginning of the year.

When amortization is required, the minimum amortization should be that excess divided by the average remaining service period of active employees expected

to receive benefits under the plan. However, when all, or almost all, of the employees are no longer active, an entity should base the amortization on the average remaining life expectancy of the former employees. [JAN. 2000]

.089 Although periodic reviews of benefit plans to determine whether the assumptions remain valid may result in changes in assumptions, short-term experience will often vary from the assumptions without necessarily indicating that those assumptions are incorrect. In the short term, actuarial gains and losses are expected to occur because assumptions about benefit plans relate to a long time frame. The experience of the benefit plan may indicate that the assumptions need to be revised. When assumptions are revised, an adjustment to the accrued benefit obligation may be required. Because actuarial gains and losses may include changes in assumptions as well as experience gains and losses and because gains in one period may be offset by losses in another, or vice versa, delayed recognition of actuarial gains and losses is appropriate.

.090 An actuarial gain or loss on plan assets is the difference between the actual return on plan assets during a period and the expected return on plan assets for that period. When the expected return on plan assets is determined using a market-related value, the actuarial gain or loss on plan assets includes both:

(a) amounts reflected in the market-related value of plan assets (i.e., that portion of the prior periods' actuarial gain or loss on plan assets that has been incorporated in the market-related value); and

(b) amounts not yet reflected in the market-related value of plan assets (i.e., the effects of changes in the fair value of plan assets not yet amortized into the market-related value).

An actuarial gain or loss not yet reflected in the market-related value of plan assets (i.e., item (b) above) is not required to be amortized in accordance with paragraphs 3461.087-.088. That part of the actuarial gain or loss is amortized when it is included in the market-related value of plan assets over future periods.

.091 An actuarial gain or loss on an accrued benefit obligation is the difference between the expected accrued benefit obligation and the actual accrued benefit obligation at the end of the period. The expected accrued benefit obligation includes the effect of the current service cost, benefit payments during the period, and the interest cost on the accrued benefit obligation for the period.

.092 For a separately measured plan providing post-employment benefits or compensated absences that do not vest or accumulate, an entity recognizes any actuarial gain or loss:

(a) immediately in the period in which it arises; or

(b) over a period linked to the type of benefit.

For example, actuarial gains and losses arising under a plan providing long-term disability benefits to former employees may be amortized over the average expected period during which benefits will be paid. Once chosen, the basis for recognizing actuarial gains and losses is applied consistently from year to year.

.093 When an entity recognizes actuarial gains and losses immediately for benefit plans other than pension plans, any gain that does not offset a loss previously recognized in accordance with paragraphs 3461.087-.088 is first applied to reduce any unamortized transitional obligation. Similarly, any loss that does not offset a gain previously recognized in accordance with paragraphs 3461.087-

.088 is first applied to reduce any unamortized transitional asset. This treatment ensures that actuarial gains and losses are not recognized in the financial statements before the underlying accrued benefit obligations or plan assets.

Temporary deviation from the benefit plan

.094 ♦ *For a defined benefit plan, the effect of any temporary deviation from the plan should be recognized in income immediately.* [JAN. 2000]

.095 An entity may decide to deviate temporarily from the provisions of a benefit plan to increase or decrease the entity's share of the benefit costs incurred in the current period or prior periods. For example:

(a) An entity may forgive a retrospective adjustment of current or prior years' cost sharing relating to benefit costs already incurred on behalf of retirees.

(b) An entity's health care plan may require that contributions from retirees in future years be increased to cover a shortfall in the current year. A shortfall arises when the benefit payments in a given year are greater than the total of the entity's stated share of the benefit payments for the year and the contributions from retirees for that year. The entity may determine that it would be onerous to increase retirees' contributions to meet a shortfall in a particular year, and decide to bear the cost of the shortfall for that year. Decisions by the entity to bear shortfalls in a number of subsequent years may indicate that the benefit plan has been amended, giving rise to amounts to be accounted for in accordance with paragraph 3461.079.

Entities with two or more plans

.096 ♦ *An entity that has two or more defined benefit plans should determine a cost, an accrued benefit obligation, and plan assets by applying this Section to each separately measured plan or aggregation of plans.* [JAN. 2000 *]

.097 For purposes of paragraph 3461.096, each funded benefit plan is a separately measured plan. Unfunded benefit plans may be aggregated for measurement purposes only when:

(a) they provide different benefits to the same group of employees and their beneficiaries; or

(b) they provide the same benefits to different groups of employees and their beneficiaries.

.098 An entity may have two or more unfunded benefit plans that provide different benefits to the same group of employees and their beneficiaries. For example, the entity may have separate medical care, dental care and eye care plans that provide benefit coverage to all retirees of the entity. The entity may combine those plans for measurement purposes. Similarly, an entity may have two or more unfunded benefit plans that provide the same benefits to different groups of employees and their beneficiaries. For example, an entity may have substantially the same retirement medical care plans at each of its operating locations. The entity may combine those plans for measurement purposes.

.099 When an entity has a benefit plan in which the accrued benefit obligation exceeds the fair value of the plan assets, and another benefit plan in which the fair value of the plan assets exceeds the accrued benefit obligation, the amounts in the two plans are generally not netted. Netting in such circumstances is

appropriate only when the entity has a clear right to use the assets of one plan to pay for the benefits to be provided by the other plan.

.100 ♦ *For an entity that has two or more defined benefit plans, an accrued benefit asset of one defined benefit plan and an accrued benefit liability of another defined benefit plan should be presented separately in the balance sheet except when an entity:*

(a) has a right to use the assets of one plan to pay for the benefits to be provided by the other plan; and

(b) intends to exercise that right. [JAN. 2000]

Limit on the carrying amount of an accrued benefit asset

.101 The following definitions are associated primarily with paragraphs 3461.102-.110:

(a) An **adjusted benefit asset** is an accrued benefit asset less the amount, if any, by which the aggregate of any unamortized past service costs, unamortized actuarial losses and unamortized transitional obligation exceeds the aggregate of any unamortized actuarial gains and unamortized transitional asset.

(b) An **expected future benefit** is a calculated amount representing the benefit an entity expects to realize from a plan surplus. An expected future benefit includes any withdrawable surplus or reduction in future contributions. An entity determines its expected future benefit as the sum of:

(i) the present value of its expected future annual accruals for service for the current number of active employees, less the present value of required employee contributions and minimum contributions the entity is required to make regardless of any surplus; and

(ii) the amount of the plan surplus that can be withdrawn in accordance with the existing plan and any applicable laws and regulations.

.102 ♦ *When a defined benefit plan gives rise to an accrued benefit asset, an entity should recognize a valuation allowance for any excess of the adjusted benefit asset over the expected future benefit. The accrued benefit asset should be presented on the entity's balance sheet net of the valuation allowance. A change in the valuation allowance should be recognized in income for the period in which the change occurs.* [JAN. 2000]

.103 As a result of following this Section, an entity with a defined benefit plan may have recognized an accrued benefit asset. An accrued benefit asset arises when the entity's accumulated cash contributions exceed the benefit costs recognized since the inception of the plan. The accrued benefit asset comprises the plan surplus for accounting purposes, if any, net of all unamortized balances for past service costs, actuarial gains and losses and transitional asset or transitional obligation. The accrued benefit asset may become impaired when there is a plan surplus that the entity is not entitled to benefit from fully. For example, there may be a regulatory moratorium on pension surplus withdrawals or uncertainties as to an entity's legal right to use a plan surplus.

.104 An accrued benefit asset may be fully realized or may become an accrued benefit liability over time through the amortization of unamortized balances in future periods in accordance with this Section. To determine the extent to which

an accrued benefit asset may be impaired, the entity first determines the portion of the accrued benefit asset that will not be amortized to future periods' income. This amount is the adjusted benefit asset. When the expected future benefit exceeds the adjusted benefit asset, the accrued benefit asset is not impaired and, accordingly, no valuation allowance is required.

.105 An entity's expected future annual accruals for service for the current number of active employees are determined on a basis consistent with that used to determine its accrued benefit obligation at the measurement date, including the discount rate determined in accordance with paragraph 3461.050. These expected future annual accruals for service, less required employee contributions and minimum contributions the entity is required to make regardless of any surplus, are then discounted back to the current period to determine the present value. The interest rate used to calculate this present value is the expected rate of return on plan assets used to determine benefit cost in the period (see paragraph 3461.076).

.106 The objective of paragraph 3461.102 is to limit an entity's accrued benefit asset to the amount that it can realize in the future. Any surplus currently in the plan may be available to reduce an entity's future contributions. The value of the accrued benefit asset is limited, therefore, to the present value of the future cash flow streams described in paragraph 3461.105. The appropriate rate for discounting these future cash flow streams is the rate at which an amount invested today would earn the return required to pay the cash flow streams in the future. This rate, therefore, is the expected return on plan assets.

.107 The present value of expected future annual accruals for service for the current number of active employees is determined on the basis of the current work force. An entity normally assumes that the current number of active employees and the demographic composition of the employee group stay constant. However, when an entity has existing plans to make significant reductions in its work force, the entity reflects these planned reductions in the number of employees used to compute the expected future benefit amount.

.108 When administration expenses are paid by the plan and included in the normal cost calculation, a best estimate of the future administration expense is included in the expected future annual accruals for service. When administration expenses are paid by the plan and not included in the normal cost calculation, the rate of return on plan assets is adjusted to reflect the deduction of the administration expenses.

.109 Key factors in determining an entity's expected future benefit from a defined benefit plan with a plan surplus are the ability and intent of the entity to withdraw assets from the plan. The expected future benefit includes amounts to which an entity has a legally enforceable right of withdrawal. It excludes any withdrawable plan surplus an entity is currently required, or intends, to allocate to employees. An entity may not anticipate obtaining a legally enforceable right to withdraw a portion of a plan surplus to which it is not currently entitled, whether on the basis of precedent or otherwise. Accordingly, when withdrawal of plan surplus requires the approval of employees or an appropriate regulatory authority or a court of law, an entity excludes any amount subject to this restriction from its expected future benefit until such approval has been obtained. A change in the allocation of surplus between an entity and its employees is incorporated into the

calculation of the expected future benefit only when it has been agreed to and, when required, approved by the appropriate regulatory authorities.

.110 When an entity is required to continue making contributions in the future even though plan assets currently exceed the accrued benefit obligation, the amount of these contributions reduces the expected future benefit.

Example

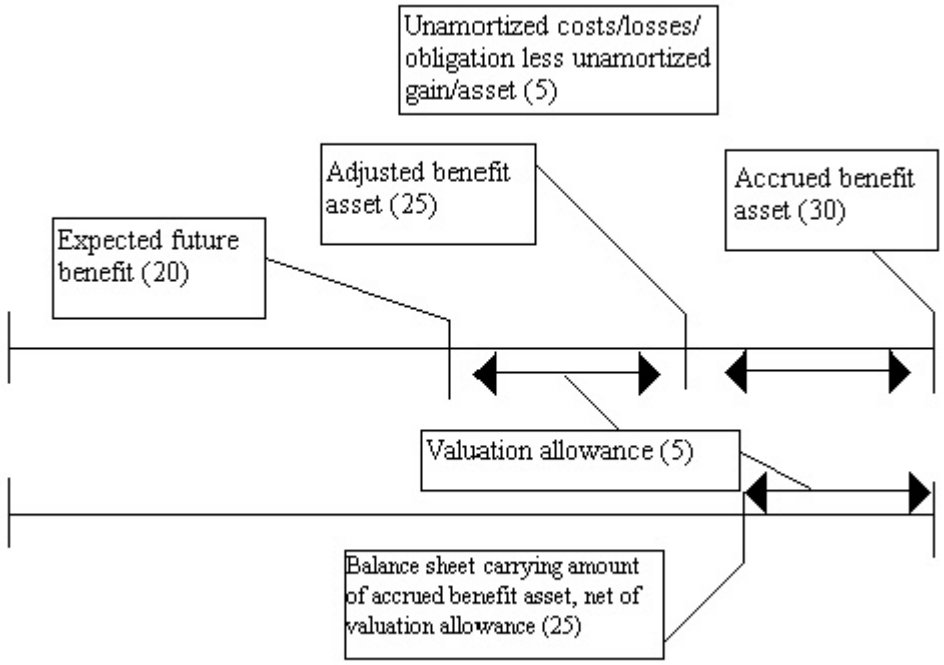
The following example illustrates the application of the limit on the carrying amount of an accrued benefit asset.

The defined terms used in applying this limit are related in the following way:

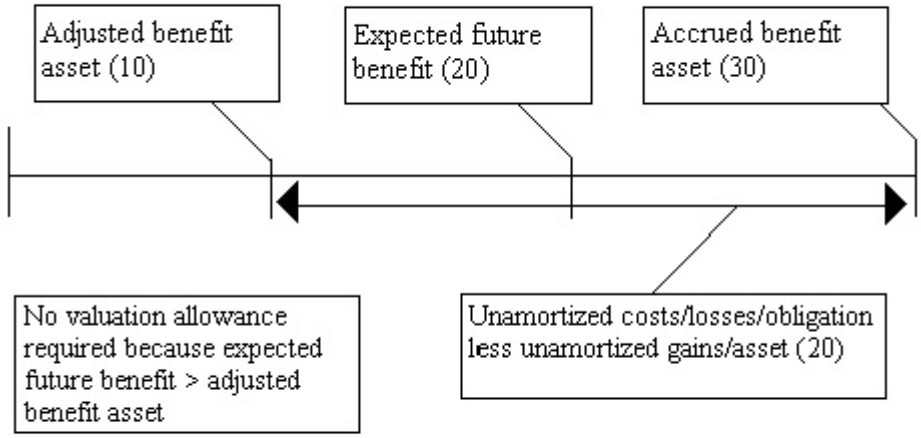
Accrued benefit asset	paragraph 3461.024(a)
Less: the aggregate of unamortized costs / losses / obligation in excess of the aggregate of unamortized gains / asset	
Adjusted benefit asset	paragraph 3461.101(a)
Expected future benefit	paragraph 3461.101(b)
Difference	
==========	
Valuation allowance = difference, when difference > 0	paragraph 3461.102

These relationships are illustrated in the following diagrams:

Situation I — Adjusted benefit asset > expected future benefit (as in Year 3 in the numerical example following these diagrams)



Situation II — Adjusted benefit asset < expected future benefit (as in Year 1 in the numerical example following these diagrams)



The following numerical example illustrates the application of the limit to an entity's financial statements over a four-year period:

	Year 1	Year 2	Year 3	Year 4
Plan assets	$200	$210	$220	$230
Accrued benefit obligation	190	150	195	205
Plan surplus	10	60	25	25
Less: the aggregate of unamortized costs / losses / obligation less the aggregate of unamortized gains / asset	20	(30)	5	5
Accrued benefit asset	$30	$30	$30	$30
	===	===	===	===
(a) Expected future benefit	$20	$20	$20	$15
	===	===	===	===
(b) Adjusted benefit asset:				
Accrued benefit asset	$30	$30	$30	$30
Less: the aggregate of unamortized costs / losses / obligation in excess of the aggregate of unamortized gains / asset	20	—	5	5
	$10	$30	$25	$25
	===	===	===	===
If (a) is greater than or equal to (b):				
No valuation allowance is required	√			
If (a) is less than (b):				
Valuation allowance required, equal to the difference between (a) and (b)		$10	$5	$10
		===	===	===
Charge (credit) to income		$10	$(5)	$5

		===	===	===
Carrying amount of accrued benefit asset net of valuation allowance	$30	$20	$25	$20
	===	===	===	===

Settlements, insurance contracts and arrangements, and curtailments

Definitions

.111 The following definitions are associated primarily with paragraphs 3461.112-.134:

(a) A **curtailment** is an event that, under a defined benefit plan, results in:

(i) a significant reduction of the expected years of future service of active employees; or

(ii) the elimination, for a significant number of active employees, of the right to earn defined benefits for some, or all, of their future services.

(b) An **insurance contract** is a policy in which an insurance enterprise assumes an unconditional legal obligation to provide specified benefits to specific individuals in return for a fixed consideration or premium. An insurance contract is irrevocable and involves the transfer of significant risk from the entity (or the plan) to the insurance enterprise. When the insurance enterprise providing the policy is a captive insurer (an insurance enterprise that does business primarily with the entity and related parties), or when there is any reasonable doubt that the insurance enterprise will meet its obligations under the policy, the policy is not considered an insurance contract. Insurance contracts include annuity contracts.

(c) A **settlement** is a transaction in which an entity substantially discharges or settles all, or part, of an accrued benefit obligation. A settlement is a transaction that is irrevocable, relieves the entity of primary responsibility for the accrued benefit obligation and eliminates the significant risks associated with the accrued benefit obligation and the assets used to effect the settlement. Examples of transactions that constitute a settlement include:

(i) making lump-sum cash payments to employees in exchange for their rights to receive specified benefits; and

(ii) purchasing non-participating insurance contracts.

Settlements compared to curtailments

.112 A settlement differs from a curtailment. A settlement eliminates actuarial and investment risks but employees continue to earn benefits by providing future services. Accordingly, a settlement is accounted for by recognizing the gain or loss resulting from remeasuring the accrued benefit obligation and plan assets at the date of settlement together with the related unamortized actuarial gain or loss. However, unrecognized past service costs are not recognized at the date of settlement since employees will continue to provide services in the future (see paragraphs 3461.113-.121). Following a curtailment, employees are no longer able to earn benefits by providing future service but actuarial and investment risks are not eliminated. Accordingly, a curtailment is accounted for by recognizing as a loss the unamortized past service costs attributable to the employees whose ability to earn benefits has been curtailed, together with the

gain or loss from remeasuring the related accrued benefit obligation to the extent this gain or loss does not represent a reversal of unamortized actuarial gains or losses or prior years' service costs (see paragraphs 3461.127-.133). A settlement and a curtailment may occur together (see paragraph 3461.134).

Settlements

.113 ♦ *For a defined benefit plan, an entity should recognize a settlement gain or loss in income for the period in which a settlement occurs. Except as specified in paragraph 3461.114, a settlement gain or loss should comprise:*

(a) any gain or loss as a result of remeasuring all of the accrued benefit obligation and all of the plan assets at the date of settlement;

(b) any unamortized actuarial gain or loss at the date of settlement; and

(c) any unamortized transitional asset at the date of settlement.

When a purchase of a participating insurance contract constitutes a settlement, any settlement gain (but not any settlement loss) should be reduced by the amount attributed to the participation right. When an entity settles only a part of an accrued benefit obligation, the settlement gain or loss recognized in income in accordance with this paragraph should be only a pro rata portion of that gain or loss, based on the percentage reduction in the accrued benefit obligation. [OCT. 2000 *]

.114 ♦ *When an entity settles all, or part, of an accrued benefit obligation of a defined benefit plan other than a pension plan, any settlement gain determined in accordance with paragraph 3461.113 should reduce any unamortized transitional obligation at the date of settlement. Any remaining gain, or a settlement loss determined in accordance with paragraph 3461.113, should be recognized in income.* [JAN. 2000]

.115 The deferral of actuarial gains and losses in an ongoing plan is based, in part, on the possibility that gains or losses occurring in one year will offset losses or gains in subsequent years. When all of an accrued benefit obligation has been settled, the possibility of future gains and losses related to that accrued benefit obligation and the assets used to effect the settlement is eliminated. The settlement is viewed as the realization of past gains or losses associated with the accrued benefit obligation that is settled and the assets used to effect the settlement. When only part of an accrued benefit obligation has been settled, the possibility of future gains and losses related to that portion of the accrued benefit obligation and the assets used to effect settlement is eliminated. The partial settlement is viewed as the realization of past gains or losses associated with that portion of the accrued benefit obligation that is settled and the assets used to effect the settlement. For example, an accrued benefit obligation for retirees, but not active employees, may be settled. Thus, a partial settlement of the accrued benefit obligation has occurred.

.116 In a settlement, any unamortized past service costs continue to be amortized after the settlement. Past service costs are amortized over the average remaining service period to employees' full eligibility dates because the entity expects to receive economic benefits in future periods as the employees continue working and earning future benefits.

.117 Any unamortized transitional obligation or transitional asset may include prior years' service costs and interest costs on the accrued benefit obligation, past service costs and actuarial gains and losses. For purposes of calculating a

settlement gain or loss, an unamortized transitional asset at the date of settlement is assumed to be an actuarial gain and is combined with any unamortized actuarial gain or loss. An unamortized transitional obligation at the date of settlement is assumed to be past service costs.

.118 Any unamortized transitional obligation for a defined benefit plan other than a pension plan is likely to include a significant amount of prior years' current service cost and interest cost on the accrued benefit obligation not previously recognized, since such a plan is not usually funded. For an ongoing benefit plan other than a pension plan, any gain arising from a settlement is reduced by any unamortized transitional obligation, with only the excess recognized in income in the period in which the settlement occurs. This treatment ensures that the entity does not accelerate the recognition of any gains arising from remeasuring an accrued benefit obligation before that obligation has been fully recognized. A settlement gain that results from settling a pension obligation is measured without regard to any unamortized transitional obligation.

.119 For a benefit plan other than a pension plan, when all, or part, of the accrued benefit obligation has been settled, a settlement may accelerate recognition of the transitional obligation under paragraph 3461 .167 since settlement payments are included in cumulative benefit payments.

.120 When the cost of all settlements for a plan in a year is less than, or equal to, the sum of the current service cost and interest cost on the accrued benefit obligation for that plan for the year, gain or loss recognition is permitted but not required for those settlements. These circumstances may arise, for example, when a plan purchases annuities each year for benefits earned by employees retiring in that year. When the gain or loss is not recognized, the settlement transaction is treated as a funding transaction and any gain or loss will be reflected in subsequent actuarial gains or losses of the plan. The accounting policy adopted for recognition of settlement gains and losses in such circumstances is applied consistently from year to year.

.121 The cost of settlement is:

(a) the amount of cash paid to employees, for a direct cash settlement;

(b) the cost of non-participating insurance contracts, for a settlement using such contracts; and

(c) the cost of participating insurance contracts less the amount attributed to participation rights (see paragraphs 3461 .125-.126), for a settlement using such contracts.

Insurance contracts and arrangements

.122 Employee future benefits may be provided or funded by an entity through insurance contracts. An insurance contract involves the transfer of significant risk from the entity (or the plan) to the insurance enterprise, even though the entity retains credit risk associated with the possibility of a default by the insurance enterprise. Examples of significant risks associated with an accrued benefit obligation are mortality risk and the risk that the inflation rate may change significantly.

.123 When an entity has settled an accrued benefit obligation through the purchase of an insurance contract, the benefits provided or funded by the insurance contract are excluded from the accrued benefit obligation and the insurance

contract is excluded from plan assets, except for any participation right (see paragraph 3461.126).

.124 Other arrangements with an insurance enterprise do not meet the definition of an insurance contract because the insurance enterprise does not assume an unconditional legal obligation to provide specified benefits to specified individuals. For example, a yearly renewable term contract with an insurance enterprise may provide sufficient cash only to pay for benefits provided in the current year. In such cases, there is no transfer of most of the risk inherent in the accrued benefit obligation and the entity accounts for its obligations to employees under its benefit plans without regard to the insurance arrangement, i.e., the entity applies this Section for defined benefit plans or defined contribution plans.

.125 Participating insurance policies provide that a purchaser (either a plan or an entity) may participate in the experience of an insurance enterprise. The insurance enterprise ordinarily pays dividends to the purchaser, the effect of which is to reduce the cost of the policy. The participation dividend is a partial return of the premium paid by the purchaser and therefore, by the terms of the definition, the participating insurance policy is not an insurance contract. Since, in substance, the participation dividend is a return on investment of the participation right, it is accounted for separately as an investment. However, the component of the participating insurance policy that involves a payment of a fixed consideration or premium may satisfy the definition of an insurance contract. When an entity has transferred significant risk associated with an accrued benefit obligation to an insurance enterprise through a participating insurance policy, a portion of this policy that represents the payment of the fixed consideration or premium may meet the definition of an insurance contract. In such cases, this portion does constitute a settlement and is accounted for as such (see paragraphs 3461.113-.121). When an entity remains subject to significant risks and rewards associated with the accrued benefit obligation covered or the assets transferred to an insurance enterprise, the purchase of the policy from the insurance enterprise does not constitute a settlement. The entity continues to account for the benefits covered by the policy as described in paragraph 3461.124.

.126 The purchase price of a participating insurance policy ordinarily is higher than the price of an equivalent policy without a participating right. The difference represents the cost of the participating right, which is recognized separately at the date of purchase as an investment.

Examples

(a) Calculation of a settlement gain or loss when an unamortized transitional obligation exists:

A company sponsors a funded retirement life insurance plan. On December 31, 20X1, the company settles the accrued benefit obligation of $70,000 for its current retirees through the purchase of non-participating life insurance contracts. The results of the partial settlement of the accrued benefit obligation are as follows:

	Before settlement		After settlement
		Settlement	

Accrued benefit obligation	$(257,000)	$70,000	$(187,000)
Plan assets at fair value	73,000	(70,000)	3,000
Plan deficit	(184,000)	—	(184,000)
Unamortized actuarial net gain	(44,575)	12,124	(32,451)
Unamortized past service costs	33,000	—	33,000
Unamortized transitional obligation	195,000	(12,124)	182,876
Accrued benefit liability	$ (575)	$ —	$ (575)

The before settlement amounts of accrued benefit obligation and plan assets incorporate the effects of remeasurement in accordance with paragraph 3461.113(a), and those effects are included in the unamortized actuarial net gain.

The settlement gain is calculated as follows:

Since only a portion of the accrued benefit obligation is settled, the company determines the settlement gain based on the percentage reduction in the accrued benefit obligation, i.e., $70,000 ÷ $257,000, or 27.2%.

Unamortized transitional asset	$ —
Unamortized actuarial net gain	44,575
Amount subject to pro rata calculation	44,575
Pro rata portion settled	x 27.2%
	12,124
Offset to unamortized transitional obligation	(12,124)
Settlement gain	$ —

In this case, the settlement gain is entirely offset against the unamortized transitional obligation and, thus, no journal entries are required as a result of the partial settlement.

(b) Calculation of a settlement gain when an unamortized transitional asset exists:

A company sponsors a defined benefit pension plan. On January 2, 20X5, the company settles the accrued benefit obligation of $200,000 for its current retirees through the purchase of annuity insurance contracts. The results of the partial settlement of the accrued benefit obligation are as follows:

	Before settlement	Settlement	After settlement
Accrued benefit obligation	$(257,000)	$200,000	$(57,000)
Plan assets at fair value	350,900	(200,000)	150,900
Plan surplus	93,900	—	93,900
Unamortized actuarial net gain	(44,575)	34,679	(9,896)
Unamortized past service cost	33,000	—	33,000

Unamortized transitional asset	(56,333)	43,827	(12,506)
Accrued benefit asset	$ 25,992	$ 78,506	$ 104,498

The before settlement amounts of accrued benefit obligation and plan assets incorporate the effects of remeasurement in accordance with paragraph < 3461 >.113(a), and those effects are included in the unamortized actuarial net gain.

The settlement gain is calculated as follows:

Since only a portion of the accrued benefit obligation is settled, the company determines the settlement gain based on the percentage reduction in the accrued benefit obligation, i.e., $200,000 ÷ $257,000, or 77.8%.

Unamortized actuarial net gain	$44,575
Pro rata portion settled	x 77.8%
	34,679
Unamortized transitional asset	56,333
Pro rata portion settled	x 77.8%
	43,827
Settlement gain	$78,506

Journal entry related to the settlement:

Dr. Accrued benefit asset	78,506	
Cr. Settlement gain		78,506

Curtailments

.127 ♦ *For a defined benefit plan, an entity should recognize a curtailment loss in income when it is probable that a curtailment will occur and the net effects are reasonably estimable. An entity should recognize a curtailment gain in income when an event giving rise to a curtailment has occurred. A curtailment gain or loss should comprise:*

(a) any unamortized past service costs and any unamortized transitional obligation associated with future years of service no longer expected to be rendered as a result of the curtailment or attributable to future years of service for which benefits have been curtailed; and

(b) the increase or decrease in the accrued benefit obligation resulting directly from the curtailment event, adjusted in accordance with paragraph < 3461 >.128. [OCT. 2000 *]

.128 ♦ *For a defined benefit plan, an increase or decrease in an entity's accrued benefit obligation resulting directly from a curtailment event should be adjusted as follows in determining a curtailment gain or loss:*

(a) When there is a decrease in the accrued benefit obligation and an unamortized actuarial loss exists, the decrease in the accrued benefit obligation should be reduced by that loss with any excess included in the curtailment gain.

(b) When there is a decrease in the accrued benefit obligation and an unamortized actuarial gain exists, the entire decrease in the accrued benefit obligation should be included in the curtailment gain.

(c) When there is an increase in the accrued benefit obligation and an unamortized actuarial loss exists, the entire increase in the accrued benefit obligation should be included in the curtailment loss.

(d) When there is an increase in the accrued benefit obligation and an unamortized actuarial gain exists, the increase in the accrued benefit obligation should be reduced by that gain with any excess included in the curtailment loss.

For purposes of determining the increase or decrease in the entity's accrued benefit obligation, any unamortized transitional asset should be treated as an unamortized actuarial gain and should be combined with the unamortized actuarial gain or loss arising subsequent to the date as of which the transitional asset was determined. [JAN. 2000]

.129 A curtailment may result from an event that, under a defined benefit plan, results in a significant reduction of the expected years of future service of active employees. For example, the event may be the termination of employment for those employees who participated in the plan at the date of a prior plan amendment. A curtailment may also result from an event that, under a defined benefit plan, results in an elimination of the right to earn defined benefits for some, or all, of the future services of a significant number of active employees. Included in the calculation of a curtailment gain or loss are part of any unamortized past service costs and part of any unamortized transitional obligation. In these circumstances, the part of any unamortized past service costs and unamortized transitional obligation associated with the curtailment is measured as:

(a) a pro rata portion of the unamortized past service costs, based on the remaining years of expected service prior to full eligibility for those employees active at the date of the plan amendment whose employment has been terminated or whose right to earn defined benefits has been eliminated relative to the remaining years of expected service prior to full eligibility of all employees active at the date of the plan amendment; and

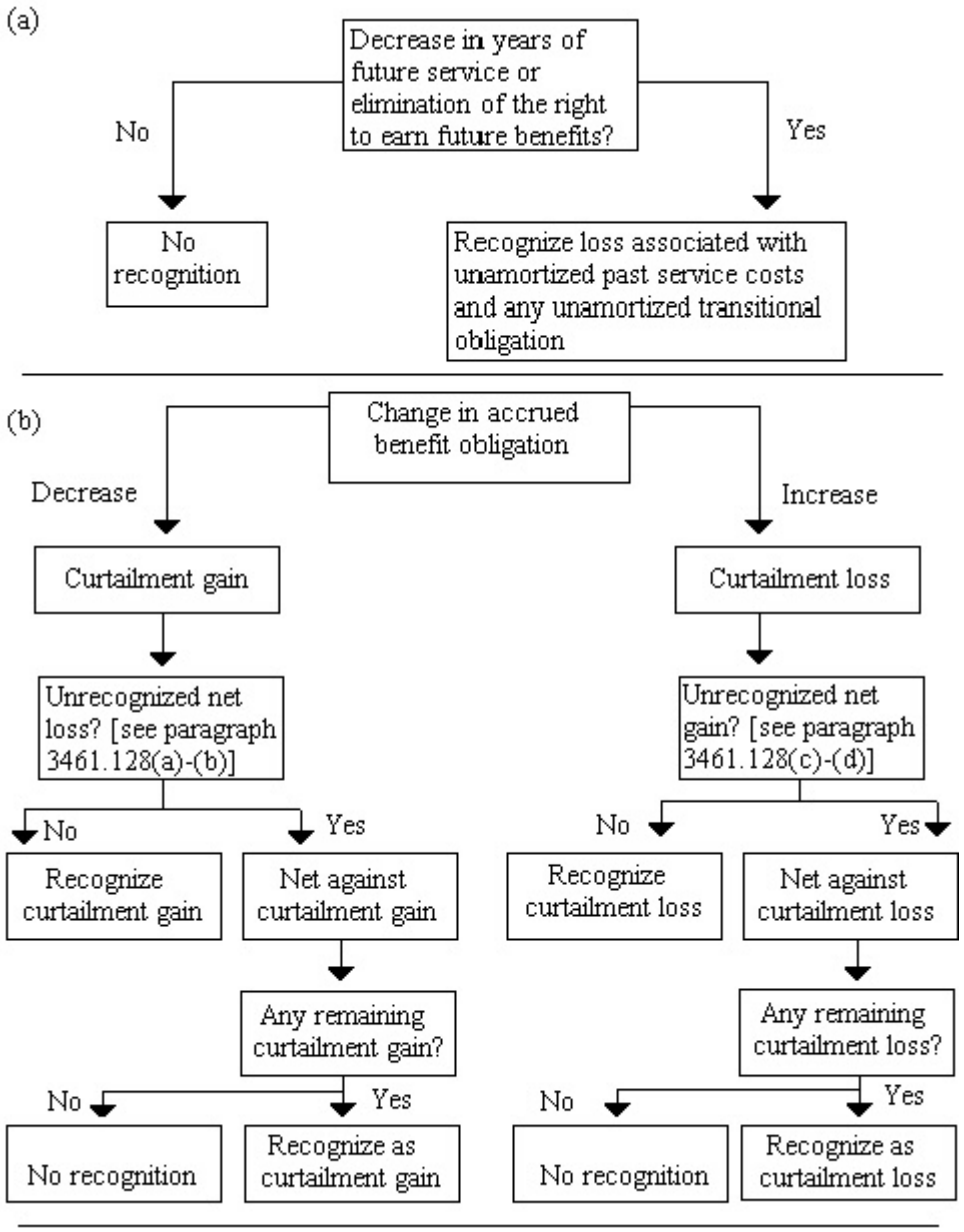
(b) a pro rata portion of the unamortized transitional obligation, based on the remaining years of expected service prior to full eligibility for those employees active at the date of transition whose employment has been terminated or whose right to earn defined benefits has been eliminated relative to the remaining years of expected service prior to full eligibility of all employees active at the date of transition.

.130 An entity may use the percentage reduction in the accrued benefit obligation in the calculation of the pro rata portion of the curtailment loss to simplify the calculation of the curtailment loss described in paragraphs 3461.127-.128 or when sufficient data is not available to determine the amortization period at the date as of which the transitional obligation or transitional asset was determined.

.131 A reduction or elimination of future services associated with a curtailment event raises doubt about the continued existence of the future economic benefits of prior plan amendments. Therefore, an entity includes in any curtailment gain or loss an appropriate portion of any unamortized past service costs.

.132 A curtailment can decrease or increase a defined benefit plan's accrued benefit obligation. This decrease or increase may be partly a reversal of previously unamortized actuarial gains and losses and partly a reversal of prior years' service costs and interest costs on the accrued benefit obligation. Therefore, a decrease in the accrued benefit obligation resulting from a curtailment is reduced by any unamortized actuarial loss and the net amount is recognized in income. When a curtailment results in a decrease in the accrued benefit obligation and an unamortized actuarial gain exists, the entire decrease in the accrued benefit obligation is recognized in income as part of the curtailment gain or loss. An increase in the accrued benefit obligation resulting from a curtailment is reduced by any unamortized actuarial gain and the net amount is recognized in income. When the curtailment results in an increase in the accrued benefit obligation and an unamortized actuarial loss exists, the entire increase in the accrued benefit obligation is recognized in income as part of the curtailment loss. Thus, only those amounts that do not represent a reversal of unamortized amounts arising previously are recognized in income.

Recognition of the effects of a curtailment



The total amount of curtailment gain or loss recognized is the sum of the amount from part (a) and the amount from part (b).

.133 Any unamortized transitional obligation or transitional asset may include prior years' service costs and interest costs on the accrued benefit obligation, past service costs and actuarial gains and losses. For purposes of calculating a curtailment gain or loss, an unamortized transitional asset at the date of curtailment is assumed to be an actuarial gain and is combined with any unamortized actuarial gain or loss. An unamortized transitional obligation at the date of curtailment is assumed to be past service costs and is combined with any unamortized past service costs.

Examples

(a) Calculation of a curtailment gain when an unamortized actuarial gain and unamortized transitional obligation exist:

A company sponsors an unfunded retirement benefit plan. On October 28, 20X4, the company decides to reduce its operations by terminating the employment of a significant number of employees effective December 31, 20X4. On October 28, 20X4, it is expected that a curtailment gain will result from the termination. The event that gives rise to the curtailment results in a significant reduction in the expected years of future service of active employees. The remaining years of expected service associated with those employees whose employment has been terminated, and who were active employees at the date of transition is 22 percent of the remaining years of service of all employees at the date as of which the transitional obligation was determined. The remaining years of service prior to full eligibility associated with those employees whose employment has been terminated, and who were employees at the date of a prior plan amendment is 18 percent of the remaining years of service of all employees at the date of that plan amendment.

	Before curtailment	Curtailment	After curtailment
Accrued benefit obligation	$(257,000)	$54,000	$(203,000)
Plan assets at fair value	—	—	—
Plan deficit	(257,000)	54,000	(203,000)
Unamortized actuarial net gain	(44,575)	—	(44,575)
Unamortized past service costs	33,000	(5,940)	27,060
Unamortized transitional obligation	195,000	(42,900)	152,100
Accrued benefit liability	$(73,575)	$ 5,160	$(68,415)

The curtailment gain is calculated as follows:

Unamortized past service costs:	18% x $33,000 =	$(5,940)
Unamortized transitional obligation:	22% x $195,000 =	(42,900)
Pro rata portion of past service costs and unamortized transitional obligation related to the curtailment		(48,840)
Decrease in accrued benefit obligation		54,000
Curtailment gain		$ 5,160

Subsequent to the curtailment, the unamortized actuarial gain, unamortized past service costs and unamortized transitional obligation continue to be amortized using the remainder of the amortization period determined at the date each balance arose.

Journal entry related to the curtailment:

Dr. Accrued benefit liability	5,160	
Cr. Curtailment gain		5,160

(b) Calculation of a curtailment loss related to a disposal of a portion of a business segment when an unamortized actuarial loss and unamortized transitional asset exist:

A company sponsors a defined benefit pension plan. On December 31, 20X4, the company decided to reduce the operations of a business segment significantly, with the result that the employment of a significant number of employees was terminated. The right of these employees to earn further benefits under the pension plan was eliminated. The portion of the accrued benefit obligation related to these employees was $110,000.

	Before curtailment	Curtailment	After curtailment
Accrued benefit obligation	$(2,000,000)	$110,000	$(1,890,000)
Plan assets at fair value	2,100,000	—	2,100,000
Plan surplus	100,000	110,000	210,000
Unamortized actuarial net loss	100,000	—	100,000
Unamortized transitional asset	(200,000)	—	(200,000)
Accrued benefit asset	$ —	$110,000	$ 110,000

The curtailment gain is calculated as follows:

Decrease in accrued benefit obligation	$110,000
Unamortized transitional asset of $200,000 treated as an unamortized actuarial gain and combined with the unamortized actuarial net loss of $100,000, resulting in an actuarial net gain of $100,000 and an adjustment pursuant to paragraph 3461.128(b) of:	—
Curtailment gain	$110,000

Subsequent to the curtailment, the unamortized actuarial loss and unamortized transitional asset continue to be amortized using the remainder of the amortization period determined at the date each balance arose.

Journal entry related to the curtailment:

Dr. Accrued benefit asset	110,000	
Cr. Curtailment gain		110,000

Relationship between settlements and curtailments

.134 A settlement and a curtailment may occur separately or together. When benefits expected to be paid in future periods are eliminated for some employees (for example, because a significant portion of the work force is dismissed or a plant is closed), but the plan remains in existence and continues to pay benefits, to invest assets, and to receive contributions, a curtailment has occurred, but not a settlement. When an entity purchases non-participating insurance contracts for the accrued benefit obligation and continues to provide benefits for future service, either in the same plan or in a successor plan, a settlement has occurred but not a curtailment. When a plan termination occurs (that is, the accrued benefit obligation is settled and the plan ceases to exist) and the plan is

not replaced by a successor defined benefit plan, both a settlement and a curtailment have occurred (whether or not the employees continue to work for the entity). When both a settlement and a curtailment occur, the entity decides which of these events to account for first and applies the same sequence in the future whenever a settlement and a curtailment occur at the same time.

TERMINATION BENEFITS

.135 The following definitions are associated primarily with paragraphs 3461 .136-.142:

(a) **Contractual termination benefits** are benefits required to be provided to employees under the existing terms of a benefit plan when a specified event, such as a plant closing, occurs.

(b) **Special termination benefits** are benefits that are not contractual termination benefits and that are offered to employees for a short period of time, normally not exceeding twelve months, in exchange for employees' voluntary or involuntary termination of employment.

.136 ♦ *An entity that offers special termination benefits to employees for voluntary terminations should recognize a liability and an expense when employees accept the offer and the amount of the special termination benefits can be reasonably estimated.* [OCT. 2000 *]

.137 ♦ *An entity that offers special termination benefits to employees for involuntary terminations should recognize a liability and an expense in the period in which:*

(a) management having the appropriate level of authority approves and commits the entity to a plan of termination and establishes the benefits that employees will receive upon their termination of employment;

(b) the benefit arrangement is communicated to employees in sufficient detail to enable them to determine the type and amount of benefits they will receive when their employment is terminated;

(c) the plan of termination specifically identifies the target level of reduction in the number of employees, the job classifications or functions and their locations; and

(d) the period of time to complete the plan of termination indicates that significant changes to the plan of termination are not likely. [OCT. 2000 *]

.138 ♦ *An entity that is required by the existing terms of a benefit plan to provide contractual termination benefits to employees should recognize a liability and an expense when it is probable that employees will be entitled to benefits and the amount can be reasonably estimated.* [OCT. 2000 *]

.139 An entity may provide benefits to employees when their employment is terminated. These benefits may be either contractual termination benefits required by the existing terms of a benefit plan when a specified event, such as a plant closing, occurs or special termination benefits offered for a short period of time. A plan of termination for special termination benefits normally does not cover a period exceeding twelve months. Special termination benefits may be provided for involuntary or voluntary termination of service.

.140 Termination benefits may take various forms including lump-sum payments, periodic future payments, or both. They may be paid directly from an entity's assets, from an existing benefit plan or a new benefit plan, or from a combination thereof. The cost of termination benefits recognized as a liability

and an expense includes the amount of any lump-sum payments and the present value of any expected future payments. A situation involving termination benefits may also involve a curtailment to be accounted for in accordance with paragraphs 3461.127-.128.

.141 The liability and expense recognized in respect of employees who accept an offer of special termination benefits:

(a) for a defined benefit pension plan, is the difference between:

(i) the accrued benefit obligation in respect of those employees under existing benefit plans, assuming that those employees would retire or terminate their employment immediately, without taking into account any special termination benefits; and

(ii) the accrued benefit obligation in paragraph 3461.141(a)(i) adjusted to reflect the special termination benefits; and

(b) for a defined benefit plan other than a pension plan, is the difference between:

(i) the accrued benefit obligation in respect of those employees under existing benefit plans, assuming that those employees not yet fully eligible for benefits would terminate their employment at their full eligibility date and that fully eligible employees would retire immediately, without taking into account any special termination benefits; and

(ii) the accrued benefit obligation in paragraph 3461.141(b)(i) adjusted to reflect the special termination benefits.

The liability and expense for special termination benefits includes only the value of the additional benefits that arises from the offer of special termination benefits. Other changes in the accrued benefit obligation resulting from employees now terminating employment at a date earlier than originally assumed would be recognized either in the determination of actuarial gains or losses (see paragraphs 3461.087-.093) or as a curtailment gain or loss (see paragraphs 3461.127-.133).

.142 An entity may offer special termination benefits to employees who leave voluntarily but terminate the employment of additional employees involuntarily if target reduction levels are not achieved. In those circumstances, the liability for termination benefits is recognized for all targeted terminations when the criteria in paragraph 3461.137 are met. The excess of the cost of voluntary termination benefits over the cost of the involuntary termination benefits is recognized when employees accept the offer and the amount can be reasonably estimated.

Example

An entity's plan of termination offers $15,000 to each employee who leaves voluntarily. The target reduction level is 300. Employees whose employment is terminated involuntarily will each receive a benefit of $9,000. The liability to be recognized when the plan of termination is approved (and the conditions in paragraph 3461.137 are met) is 300 x $9,000 = $2,700,000. When employees accept the voluntary offer of the $15,000 benefit, an additional liability for $6,000 per employee is accrued (see paragraph 3461.136).

DISCONTINUED OPERATIONS AND DISPOSAL OF A PORTION OF A BUSINESS SEGMENT

(paragraph 3461 .143 deleted)

.144 When a settlement or curtailment gain or loss or the cost of special or contractual termination benefits, including post-employment benefits, is directly related to a discontinued operation (see DISPOSAL OF LONG-LIVED ASSETS AND DISCONTINUED OPERATIONS, Section 3475), it is:

(a) recognized in accordance with Section 3461; and

(b) presented in accordance with Section 3475.

MULTIEMPLOYER AND MULTIPLE-EMPLOYER BENEFIT PLANS

.145 The following definitions are associated primarily with paragraphs 3461 .146-.149:

(a) A **multiemployer plan** is a defined benefit plan to which two or more unrelated entities contribute, usually pursuant to one or more collective bargaining agreements. Unrelated entities are entities that do not meet the definition of related parties in RELATED PARTY TRANSACTIONS, Section 3840. Multiemployer plans may be referred to as "joint trust" or "union" plans. Characteristics of a multiemployer plan include the following:

(i) Assets contributed by one participating entity are not segregated in a separate account or restricted to provide benefits only to employees of the entity and, thus, may be used to provide benefits to employees of other participating entities.

(ii) Participating entities usually have a common industry bond or at least have the same labour union.

(iii) A multiemployer plan is usually administered by a board of trustees composed of management and labour representatives.

(b) A **multiple-employer plan** is a defined benefit plan maintained by more than one entity that is not a multiemployer plan. In contrast to multiemployer plans, a multiple-employer plan maintains separate accounts for each entity so that contributions provide benefits only for employees of the contributing entity. In addition, multiple-employer plans are generally not collectively bargained and are intended to allow participating entities, commonly in the same industry, to pool their plan assets for investment purposes and to reduce the cost of plan administration. Multiple-employer plans may have features that allow participating entities to have different benefit formulae, with the entity's contributions to the plan based on the benefit formula selected by the entity.

.146 When benefits are provided to employees through a multiemployer plan, the amount for which an individual entity is obligated under the plan may not be quantified. Generally, a contribution rate is established for each period to ensure that the plan assets are adequate to cover the plan's future benefit payments.

.147 Although a multiemployer plan may have the characteristics of a defined benefit plan, sufficient information to follow the standards on defined benefit plans in paragraphs 3461 .024-.134 is normally not available. In such circumstances, a multiemployer plan is accounted for following the standards on defined contribution plans in paragraphs 3461 .014-.023.

.148 When benefits are provided to employees through a defined benefit multiple-employer plan, each entity in the plan follows the standards on defined benefit plans in paragraphs 3461.024-.134 and bases its accounting for plan assets on its proportionate interest in the assets of the multiple-employer plan.

.149 The definition of a multiemployer plan refers to entities that are unrelated. Entities within a related group, such as a parent company and its subsidiaries, may share a benefit plan that satisfies the definition of a multiemployer benefit plan other than the requirement that the entities be unrelated. The costs of the benefit plan are not always allocated to, or funded separately by, the individual entities within the related group. As a result, individual entities within the related group are not able to identify their share of the underlying assets and liabilities. In such circumstances, a benefit plan is accounted for by the parent company and its subsidiaries in their individual financial statements following the standards on defined contribution plans in paragraphs 3461.014-.023. In its consolidated financial statements, the company accounts for the plan following the standards on defined benefit plans in paragraphs 3461.024-.134. Additional disclosures are required in the non-consolidated financial statements of the parent company and in the financial statements of its subsidiaries to indicate that defined contribution plan accounting has been used (see paragraph 3461.152(h)).

DISCLOSURE

General

.150 ♦ *The objective of the disclosure requirements is to provide users of financial statements with information about:*

(a) the effect of employee future benefits on the entity's financial statements, and

(b) plan obligations and assets for defined benefit plans;

that is useful in understanding the entity's obligation to provide employee future benefits, and the costs, risks and uncertainties associated with those obligations, for purposes of making resource allocation decisions as well as assessing management stewardship. To meet this objective, an entity should provide, at a minimum, the disclosures in paragraphs 3461.151-.163. [JUNE 30, 2004]

.151 An entity provides the disclosures required by paragraphs 3461.153-.157 and 3461.161, separately for:

(a) plans that provide pension benefits; and

(b) plans that provide primarily other employee future benefits.

.152 An entity discloses the significant accounting policies it has adopted in applying this Section, including where applicable:

(a) whether future salary levels or cost escalation affect the amount of employee future benefits, and that therefore, the projected benefit method prorated on services has been used to determine the accrued benefit obligation, or whether future salary levels or cost escalation do not affect the amount of employee future benefits, and that therefore, the accumulated benefit method has been used to determine the accrued benefit obligation (see paragraph 3461.034);

(b) whether the expected return on plan assets is based on the fair value of plan assets or on a market-related value, and in the latter case, the

method used in calculating the market-related value for each class of asset (see paragraphs 3461.076-.077);

(c) the method used to amortize past service costs and the amortization period (see paragraphs 3461.079-.083 and paragraph 3461.086);

(d) whether all actuarial gains and losses are amortized or only those in excess of 10 percent of the greater of the accrued benefit obligation and the fair value (or market-related value) of plan assets at the beginning of the year, the method used to amortize actuarial gains and losses, and the amortization period (see paragraphs 3461.087-.088 and paragraph 3461.092);

(e) when the entity applies this Section prospectively, the method used to amortize a transitional obligation or transitional asset and the amortization period (see paragraph 3461.167);

(f) the sequence in which a settlement and a curtailment are accounted for when a transaction or event gives rise to both (see paragraph 3461.134);

(g) the use of defined contribution plan accounting by an entity that is part of a multiemployer plan for which the entity has insufficient information to apply defined benefit plan accounting (see paragraph 3461.147); and

(h) the use of defined contribution plan accounting by an entity that is part of a multiemployer plan of a related group of companies (see paragraph 3461.149).

Defined contribution plans

.153 For defined contribution plans, an entity discloses:

(a) the cost recognized for the period; and

(b) a description of the nature and effect of each significant change during the period affecting the comparability of the costs for the current and prior periods, such as a change in the rate of employer contributions, a business combination or a divestiture.

The entity also discloses the total cash amount initially recognized in the period as paid or payable for that period for employee future benefits. This amount includes contributions to funded defined benefit plans and to defined contribution plans; payments directly to employees, their beneficiaries or estates; and payments to a third-party service provider on behalf of the employees. When the entity discloses any component of the total cash amount separately, it provides a reconciliation of this component to that total.

Defined benefit plans

.154 An entity discloses the following information about the effect of defined benefit plans on its financial statements for the period:

(a) Description of the type(s) of plans
a description of the type(s) of pension plans, distinguishing flat-benefit plans from final-pay plans and identifying indexation features; and a description of the type(s) of plans other than pension plans, identifying the benefits included such as health care and life insurance;

(b) Measurement date and dates of actuarial valuations
the date used to measure the plan assets and the accrued benefit obligation (see paragraph 3461.044), the effective date of the most

recent actuarial valuation for funding purposes and the effective date of the next required actuarial valuation for funding purposes;

(c) Costs recognized
the total amount of benefit cost recognized for the period (see paragraph 3461.070) and an analysis of the components of that cost, showing separately:

(i) each amount arising from events in the period, including the current service cost, any past service cost arising from a plan initiation or amendment in the period, the interest cost on the accrued benefit obligation, the actual return on plan assets, and actuarial gains and losses arising during the period on an accrued benefit obligation;

(ii) the difference between the actual return on plan assets and the expected return on plan assets;

(iii) other adjustments (such as the deferral of amounts arising from events in the period and the amortization of amounts previously deferred) made to provide an appropriate allocation of costs to the periods in which employee services are rendered, showing separately each component including actuarial gains and losses, past service costs and transitional amounts; and

(iv) the increase or decrease in a valuation allowance against the carrying amount of an accrued benefit asset;

(d) Assets and liabilities
the amount(s) recognized in the balance sheet at the end of the period as an accrued benefit liability or accrued benefit asset, together with the balance sheet classification(s), indicating separately the amount of any valuation allowance determined in accordance with paragraph 3461.102;

(e) Reconciliation
a reconciliation of the accrued benefit obligation to the accrued benefit liability or accrued benefit asset (net of any valuation allowance) at the end of the period (see paragraph 3461.044), showing separately:

(i) the fair value of plan assets at the end of the period;

(ii) the resulting plan surplus or deficit at the end of the period;

(iii) the balance of unamortized amounts at the end of the period, showing separately the amounts of:

— unamortized past service costs;

— unamortized net gain or loss, which comprises unamortized actuarial gains and losses and the asset gains and losses not yet reflected in a market-related value of plan assets; and

— the aggregate of the unamortized transitional obligation or transitional asset and the unamortized amount carried forward arising on the initial application of this Section related to the limit on the carrying amount of an accrued benefit asset;

and

(iv) the amount of any valuation allowance determined in accordance with paragraph 3461.102.

The entity also discloses the total cash amount initially recognized in the period as paid or payable for that period for employee future benefits. This amount includes contributions to funded defined benefit plans and to defined contribution plans; payments directly to employees, their beneficiaries or estates; and payments to a third-party service provider on behalf of the employees for employee future benefits. When the entity discloses any component of the total cash amount separately, it provides a reconciliation of this component to that total.

.155 An entity discloses the following information about defined benefit plans for which it is the sponsor:

(a) The benefits obligation
a reconciliation of the beginning and ending balances of the accrued benefit obligation for the period, showing separately:

(i) the amount of contributions by employees during the period;

(ii) the amount of benefits paid during the period;

(iii) the current service cost for the period;

(iv) the interest cost for the period on the accrued benefit obligation;

(v) the effect of each significant non-routine event, including an amendment, settlement or curtailment of a plan, an event giving rise to contractual termination benefits, or a business combination or divestiture;

(vi) the actuarial gains and losses arising during the period; and

(vii) the effect of foreign currency exchange rate changes;

(b) Plan assets
the following information about plan assets:

(i) a reconciliation of the beginning and ending balances of the fair value of plan assets for the period, showing separately:

— the amount of contributions by the entity during the period;

— the amount of contributions by employees during the period;

— the amount of benefits paid during the period;

— the effect of each significant non-routine event, including a settlement of a plan, an event giving rise to contractual termination benefits, or a business combination or divestiture;

— the actual return on plan assets during the period; and

— the effect of foreign currency exchange rate changes;

(ii) the percentage of the fair value of total plan assets held at the measurement date (see paragraph 3461.044) represented by each major category of plan assets, which include but are not limited to equity securities, debt securities and real estate; and additional asset categories when that information is expected to be useful in understanding the risks and expected long-term rate of return for plan assets; and

(iii) the amounts and types of securities of the entity and related parties included in plan assets, the approximate amount of future annual benefits covered by insurance contracts issued by the entity or related parties, and transactions between the entity and the plan during the period; and

(c) Non-routine events
the nature and effect of each significant non-routine event occurring during the period, including an amendment, curtailment or settlement of a plan, an event giving rise to contractual termination benefits, or a business combination or divestiture.

.156 An entity that has aggregated disclosures for its single-employer defined benefit pension plans, or for its other defined benefit plans, discloses the accrued benefit obligation at the end of the period as determined by the actuarial valuation, and the fair value of plan assets at the end of the period, separately for the aggregate of plans with accrued benefit obligations in excess of plan assets.

.157 An entity discloses the significant assumptions used in accounting for employee future benefits, including:

(a) the weighted average of the amounts assumed in accounting for the plan for:

(i) the discount rate at the end of the period used to determine the accrued benefit obligation;

(ii) the discount rate at the preceding year end (see paragraph 3461.045) used to determine the benefit cost;

(iii) the expected long-term rate of return on plan assets; and

(iv) the rate of compensation increase (for pay-related plans);

specifying, in a tabular form, the assumptions used to determine the accrued benefit obligation and the assumptions used to determine benefit cost; and

(b) the assumed health care cost trend rate(s) for the next year used to measure the expected cost of benefits covered by the plan (gross eligible charges), and a general description of the direction and pattern of change in the assumed trend rate(s) thereafter, together with the ultimate trend rate(s) and when each such rate is expected to be achieved.

.158 An entity with a plan providing health care benefits to retirees discloses the effects of a one-percentage-point increase and a one-percentage-point decrease in the assumed health care cost trend rates on the aggregate of the service and interest cost components of the benefit cost for the period, and on the accrued benefit obligation at the end of the period. Comparative information is not required.

.159 The following disclosures, included in paragraphs 3461.154-.155 and 3461.157-.158, are not required of entities other than public enterprises, co-operative organizations, deposit-taking institutions and life insurance enterprises:

(a) the components of the benefit cost, otherwise disclosed in accordance with paragraph 3461.154(c);

(b) the separate unamortized amounts, otherwise disclosed in accordance with paragraph < 3461 >.154(e)(iii);

(c) the reconciliation of the beginning and ending balances of the accrued benefit obligation for the period, otherwise disclosed in accordance with paragraph < 3461 >.155(a);

(d) the reconciliation of the beginning and ending balances of the fair value of plan assets for the period, otherwise disclosed in accordance with paragraph < 3461 >.155(b)(i); however, all entities disclose the benefits paid; and

(e) the effects of a one-percentage-point increase and a one-percentage point decrease in the assumed health care cost trend rates, otherwise disclosed in accordance with paragraph < 3461 >.158.

.160 Public enterprises are those enterprises that have issued debt or equity securities that are traded in a public market (a domestic or foreign stock exchange or an over-the-counter market, including local or regional markets), that are required to file financial statements with a securities commission, or that provide financial statements for the purpose of issuing any class of securities in a public market.

Multiemployer plans

.161 For multiemployer plans, an entity discloses:

(a) the cost recognized for the period; and

(b) a description of the nature and effect of each significant change during the period affecting comparability, such as a change in the rate of employer contributions, a business combination or a divestiture.

.162 In some circumstances, an entity may be unable to obtain sufficient information about its multiemployer plans to disaggregate amounts it has contributed to provide pension benefits from amounts it has contributed primarily to provide other employee benefits. When such disaggregation is impracticable, an entity discloses total contributions to multiemployer plans.

Special termination benefits

.163 For special termination benefits, a public enterprise, co-operative organization, deposit-taking institution or life insurance enterprise discloses:

(a) the amount of the expense recognized for the period; and

(b) a description of the nature of the related event or events that resulted in these benefits being provided.

TRANSITIONAL PROVISIONS

.164 The disclosure paragraphs < 3461 >.150-.163 of this Section apply to fiscal years ending on or after June 30, 2004. Earlier adoption is encouraged. All other paragraphs of this Section apply to fiscal years beginning on or after January 1, 2000.

.165 An entity may apply this Section either prospectively or retroactively, and it discloses the method of application it has chosen. This Section is applied on the same basis to all of an entity's benefit plans for which a change in accounting is required.

.166 When a change in accounting is required, an entity determines the accrued benefit obligation, the fair value of plan assets and the transitional obligation or

transitional asset in accordance with this Section as of the beginning of the fiscal year to which it is first applied.

.167 When this Section is applied prospectively to a benefit plan, an entity amortizes a transitional obligation or transitional asset in a rational and systematic manner over an appropriate period of time, which is normally the average remaining service period of active employees expected to receive benefits under the benefit plan. However, when all, or almost all, of the employees are no longer active at the date as of which the plan's transitional obligation or transitional asset is determined, the entity amortizes the transitional obligation or transitional asset on a straight-line basis over the average remaining life expectancy of the former employees. When the limit on the carrying amount of an accrued benefit asset changes as a result of the initial application of this Section on a prospective basis, the amount of the change in the valuation allowance is carried forward and amortized on the same basis as a transitional asset or transitional obligation. For a defined benefit plan other than a pension plan, the amortization of a transitional obligation for each period should be sufficient to ensure that the cumulative benefit cost recognized subsequent to the date as of which the transitional obligation is determined is no less than the cumulative benefit payments subsequent to that date.

.168 An entity may have various unamortized balances arising from the application of methods of accounting for employee future benefits other than the methods specified by this Section. Such balances may include previously unamortized amounts for past service costs, actuarial gains and losses, transitional balances and the difference between the fair value of plan assets and their market-related value. When a change in accounting is required, all of these balances are included in the transitional obligation or transitional asset determined in accordance with this Section, except when the entity chooses to apply the guidance in paragraph 3461.169. The previous amortization schedules no longer apply. All past service costs and actuarial gains or losses arising after the date as of which the transitional obligation or transitional asset is determined are amortized from that date forward in accordance with this Section.

.169 At the date as of which an entity first applies this Section, the entity may apply it in a manner that produces recognized and unrecognized amounts for all of the entity's benefit plans the same as those determined by the application of accounting principles generally accepted in the United States.

.170 When an entity has chosen prospective application of this Section and has a separately measured benefit plan providing post-employment benefits or compensated absences that do not vest or accumulate, the transitional obligation or transitional asset is amortized to income on a basis appropriate for the type of benefit. For example, a long-term disability benefit may be amortized based on the average period over which benefits are expected to be paid.

.171 When this Section is applied prospectively to a defined benefit plan other than a pension plan that was previously accounted for on a cash basis, any transitional obligation is amortized on a basis that ensures recognition of the accrued benefit obligation in accordance with this Section, in an amount at least equal to the amount that would have been recognized under the previous method of accounting. An accelerated amortization is most likely to occur for such a plan when former employees comprise a significant proportion of all active, inactive and former employees.

.172 For an entity applying this Section on a retroactive basis, restatement of financial statements for prior periods is encouraged but not required.

GLOSSARY OF DEFINED TERMS

This glossary contains all of the terms defined in this Section (see paragraphs 3461.009, 3461.024, 3461.101, 3461.111, 3461.135 and 3461.145), set out in alphabetical order.

An **accrued benefit asset** is the amount of any asset recognized on an entity's balance sheet in respect of employee future benefits before deducting any valuation allowance that may be required. It is the sum of the entity's accumulated cash contributions less the sum of the current and prior years' benefit costs (before any change in valuation allowance).

An **accrued benefit liability** is the amount of any liability recognized on an entity's balance sheet in respect of employee future benefits. It is the sum of the current and prior years' benefit costs less the entity's accumulated cash contributions.

Accrued benefit methods are a family of actuarial valuation methods in which a distinct unit of future benefit is attributed to each year of credited service and the actuarial present value of that unit of benefit is computed separately for the period during which it is presumed to have accrued. Two accrued benefit methods are:

(i) **Accumulated benefit method** — Benefits earned to date are based on the plan formula, the employee's history of pay, service and other factors, as of the date of determination.

(ii) **Projected benefit method prorated on services** — Generally, an equal portion of the total estimated future benefit (i.e., with salary projection or cost escalation, when appropriate) is attributed to each year of service in the attribution period. Some plans define different amounts of benefits for different years of service. For such plans, this method will not necessarily attribute an equal portion of the total estimated future benefit to each year of service in the attribution period (see paragraph 3461.042).

An **accrued benefit obligation** is the actuarial present value of benefits attributed to employee services rendered to a particular date. As of a particular date prior to an employee's full eligibility date, an entity's accrued benefit obligation in respect of the employee is the portion of the obligation for employee future benefits attributed to that employee's service rendered to that date. On and after the full eligibility date, the accrued benefit obligation and obligation for employee future benefits for an employee are the same.

Actuarial assumptions are estimates of future events that will affect an entity's costs, and obligation, for employee future benefits. Examples of these estimates are rates of return on plan assets, administration expenses and taxes (other than income taxes), termination rates, disability claim rates, rates of employee turnover, retirement age, mortality, dependency status, per capita claims costs by age and by type of benefit, health care cost trend rates, discount rates to reflect the time value of money, and future salary and benefit levels.

Actuarial gains and losses are changes in the value of the accrued benefit obligation and the plan assets resulting from:

(i) experience different from that assumed; or

(ii) changes in an actuarial assumption.

Actuarial present value is the discounted value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.

An **actuarial valuation** is an assessment of the financial status of a benefit plan. It includes the valuation of plan assets, if any, and the accrued benefit obligation.

An **adjusted benefit asset** is an accrued benefit asset less the amount, if any, by which the aggregate of any unamortized past service costs, unamortized actuarial losses and unamortized transitional obligation exceeds the aggregate of any unamortized actuarial gains and unamortized transitional asset.

An **attribution period** is the period of an employee's service to which an obligation for employee future benefits is assigned.

A **benefit plan** is any arrangement that is mutually understood by an entity and its employees whereby the entity undertakes to provide its employees with benefits after active service in exchange for their services. Benefits may commence immediately upon termination or suspension of active service or may be deferred until an employee attains a specified age. Generally, a written plan provides the best evidence of the terms of the benefit plan. However, the terms of a benefit plan may also be discernible from a well-defined, although unwritten practice of paying benefits or from oral representations made to employees. For example, an indication that the terms of a benefit plan differ from the written plan may be discerned from an entity's past practice of providing regular increases in certain monetary benefits. An entity could have a present commitment to amend the benefit plan, either in writing or through practice or oral representations. Evidence of an entity's commitment to amend the benefit plan includes its past practices of amending the plan, identification of strategies to effect future changes, and the assessment of the feasibility and likelihood of making those changes in light of the expected economic and social costs. Anticipated amendments that are subject to negotiations do not constitute terms of a benefit plan until such amendments have been negotiated and agreed to by the entity and its employees.

Benefits that accumulate are those for which the right to the benefit is earned but unused and may be carried forward to one or more periods subsequent to that in which they are earned, even though there may be a limit to the amount that can be carried forward.

Contractual termination benefits are benefits required to be provided to employees under the existing terms of a benefit plan when a specified event, such as a plant closing, occurs.

A **credited service period** is the employee service period for which benefits are earned pursuant to the terms of a benefit plan. The beginning of a credited service period may be the date of hire or a later date. For example, a plan may provide benefits only for service rendered after a specified age or period of employment.

A **curtailment** is an event that, under a defined benefit plan, results in:

(i) a significant reduction of the expected years of future service of active employees; or

(ii) the elimination, for a significant number of active employees, of the right to earn defined benefits for some, or all, of their future services.

A **defined benefit plan** is a benefit plan that specifies either the benefits to be received by an employee, or the method of determining those benefits, such as a benefit of $10,000 of life insurance or a pension benefit equal to one and a half percent of the average of the final five years' salary times the total years of service. Any benefit plan that is not a defined contribution plan is a defined benefit plan.

A **defined contribution plan** is a benefit plan that specifies how an entity's contributions to the plan are determined rather than the benefits to be received by an employee or the method of determining those benefits. The plan also allocates the entity's contributions to specific individuals. The future benefit for each employee is the accumulated amount of the contributions made by the entity on that employee's behalf together with the accumulated amount of any contributions made by the employee and the investment earnings on the contributions.

An **expected future benefit** is a calculated amount representing the benefit the entity expects to realize from a plan surplus. An expected future benefit includes any withdrawable surplus or reduction in future contributions. An entity determines its expected future benefit as the sum of:

(i) the present value of its expected future annual accruals for service for the current number of active employees, less the present value of required employee contributions and minimum contributions the entity is required to make regardless of any surplus; and

(ii) the amount of the plan surplus that can be withdrawn in accordance with the existing plan and any applicable laws and regulations.

Fair value is the amount of the consideration that would be agreed upon in an arm's length transaction between knowledgeable, willing parties who are under no compulsion to act.

The **full eligibility date** is the date at which an employee has rendered all of the service necessary to earn the right to receive all of the benefits expected to be received by that employee (including any beneficiaries and dependants expected to receive benefits). Determination of the full eligibility date is affected by plan terms that provide incremental benefits expected to be received by or on behalf of an employee for additional years of service, unless those incremental benefits are insignificant.

A **funded benefit plan** is a benefit plan in which the reporting entity is setting aside assets to pay the costs of benefits as they become due. The assets are set aside by the reporting entity in a separate legal entity, generally a trust, and the reporting entity cannot use the assets so set aside for its own purposes. When benefits become payable, they are paid out of the trust directly to the employees. Pension plans are generally funded because of legal requirements to set assets aside.

An **insurance contract** is a policy in which an insurance enterprise assumes an unconditional legal obligation to provide specified benefits to specific individuals in return for a fixed consideration or premium. An insurance contract is irrevocable and involves the transfer of significant risk from the entity (or the plan) to the insurance enterprise. When the insurance enterprise providing the policy is a captive insurer (an insurance enterprise that does business primarily with the entity and related parties), or when there is any reasonable doubt that the insurance enterprise will meet its obligations under the policy, the policy is

not considered an insurance contract. Insurance contracts include annuity contracts.

A **multiemployer plan** is a defined benefit plan to which two or more unrelated entities contribute, usually pursuant to one or more collective bargaining agreements. Unrelated entities are entities that do not meet the definition of related parties in RELATED PARTY TRANSACTIONS, Section 3840. Multiemployer plans may be referred to as "joint trust" or "union" plans. Characteristics of a multiemployer plan include the following:

(i) Assets contributed by one participating entity are not segregated in a separate account or restricted to provide benefits only to employees of the entity and, thus, may be used to provide benefits to employees of other participating entities.

(ii) Participating entities usually have a common industry bond or at least have the same labour union.

(iii) A multiemployer plan is usually administered by a board of trustees composed of management and labour representatives.

A **multiple-employer plan** is a defined benefit plan maintained by more than one entity that is not a multiemployer plan. In contrast to multiemployer plans, a multiple-employer plan maintains separate accounts for each entity so that contributions provide benefits only for employees of the contributing entity. In addition, multiple-employer plans are generally not collectively bargained and are intended to allow participating entities, commonly in the same industry, to pool their plan assets for investment purposes and to reduce the cost of plan administration. Multiple-employer plans may have features that allow participating entities to have different benefit formulae, with the entity's contributions to the plan based on the benefit formula selected by the entity.

An **obligation for employee future benefits** is the actuarial present value as of a particular date of benefits expected to be paid under a defined benefit plan. The obligation is measured on the basis of the expected amount and timing of future benefits, taking into consideration the expected future cost of providing the benefits and the extent to which the costs are shared by employees or others.

Plan assets are assets that have been segregated and restricted in a trust or other legal entity separate from a reporting entity to provide for employee future benefits under the following conditions:

(i) The assets of the separate entity are to be used only to settle the related accrued benefit obligation, are not available to the reporting entity's own creditors, and either cannot be returned to the reporting entity or can be returned to the reporting entity only if the remaining assets of the trust are sufficient to meet the plan's obligations.

(ii) To the extent that sufficient assets are in the separate entity, the reporting entity will have no obligation to pay the related employee future benefits directly.

Plan assets include any financial instruments issued by the reporting entity and held by the trust or other legal entity. For the purposes of this Section, plan assets do not include amounts held by the reporting entity and not yet paid into the trust or other legal entity. Plan assets may include certain arrangements with insurance enterprises (see paragraphs 3461.122-.126).

A **settlement** is a transaction in which an entity substantially discharges or settles all, or part, of an accrued benefit obligation. A settlement is a transaction that is irrevocable, relieves the entity of primary responsibility for the accrued benefit obligation and eliminates the significant risks associated with the accrued benefit obligation and the assets used to effect the settlement. Examples of transactions that constitute a settlement include:

(i) making lump-sum cash payments to employees in exchange for their rights to receive specified benefits; and

(ii) purchasing non-participating insurance contracts.

Special termination benefits are benefits that are not contractual termination benefits and that are offered to employees for a short period of time, normally not exceeding twelve months, in exchange for employees' voluntary or involuntary termination of employment.

A **transitional asset** is the unrecognized amount, if any, as of the beginning of the fiscal year to which this Section is first applied, determined as:

(i) the fair value of plan assets less the accrued benefit obligation;

(ii) less any accrued benefit asset or plus any accrued benefit liability.

An entity may have adopted a method of accounting in accordance with this Section prior to its issuance. In that case, a transitional asset is not re-determined.

The **transitional obligation** is the unrecognized amount, as of the beginning of the fiscal year in which this Section is first applied, determined as:

(i) the accrued benefit obligation less the fair value of plan assets;

(ii) plus any accrued benefit asset or less any accrued benefit liability.

An entity may have adopted a method of accounting in accordance with this Section prior to its issuance. In that case, a transitional obligation is not re-determined.

An **unamortized transitional asset** or **unamortized transitional obligation** is the portion of a transitional asset or transitional obligation that has not been recognized in the financial statements.

An **unfunded benefit plan** is a benefit plan in which an entity pays all of the costs of benefits directly to its employees, their beneficiaries or estates, or to a third-party service provider on behalf of the employees, as the amounts become due.

Employee future benefits that **vest** are those for which, after a specific or determinable date, the entitlement ceases to be conditional on an employee remaining in the service of an entity.

ILLUSTRATIVE EXAMPLES

This material is illustrative only.

These examples indicate how the accounting treatment specified in this Section might be applied in particular situations. Matters of principle relating to particular situations should be decided in the context of this Section.

None of the examples relates to any other example.

Example 1 — Computations

Example 2 — Disclosures

Example 3 — Transition

Example 1 — Computations

These examples illustrate computations of the accrued benefit liability, benefit cost and related amounts for a pension plan and a plan providing other retirement benefits.

SITUATION I
Pension Plan Using Fair Value of Plan Assets for Calculating Expected Return

Situation I assumes that the Company uses fair value for the calculation of the expected return on plan assets. Situation II assumes that the Company uses market-related value for that calculation.

XYZ Company sponsors a defined benefit pension plan. The Company uses the balance sheet date of December 31 as the measurement date. The current service cost and past service costs are determined as of the beginning of the year. All contributions and benefit payments are assumed to occur in the middle of the year. An employee's contributions are refundable upon withdrawal from the plan to the extent benefits have not become vested. XYZ Company recognizes in pension cost the minimum required annual amortization of actuarial gains and losses. The Company expenses all costs recognized for the period relating to employee future benefits. An unamortized transitional obligation of $500,000 is being amortized over 12 years. The following amounts relate to XYZ Company's pension experience as determined by annual valuations.

	20X0	20X1
Assumptions		
1 Expected long-term rate of return on plan assets	7.5%	7.5%
2 Discount rate — Jan. 1	6.5%	6.0%
3 Assumed rate of salary escalation	4.0%	4.0%
4 Average remaining service period of active employees expected to receive benefits under the pension plan (years)	12	12
Annual amounts		
5 Current service cost, net of employee contributions	$100,000	$118,200
6 Contributions by the Company	115,000	165,000
7 Contributions by the employees	35,000	40,000
8 Benefit payments	30,000	39,000
9 Accrued benefit obligation — Jan. 1	2,000,000	2,080,000
10 Accrued benefit obligation — Dec. 31	2,080,000	2,474,000
11 Fair value of plan assets — Jan. 1	1,500,000	1,856,000
12 Fair value of plan assets — Dec. 31	1,856,000	1,988,000
13 Past service costs	—	125,000
14 Period over which past service costs are to be amortized — Jan. 1 (years)	—	12

Exhibit I — Actual return on plan assets

	20X0	20X1

15 Fair value of plan assets — Jan. 1 (Line 11)	$1,500,000	$1,856,000
16 Contributions (Line 6 + Line 7)	150,000	205,000
17 Benefit payments (Line 8)	(30,000)	(39,000)
18 Sub-total	1,620,000	2,022,000
19 Fair value of plan assets — Dec. 31 (Line 12)	1,856,000	1,988,000
20 Actual return on plan assets	$ 236,000	$ (34,000)

Exhibit II — Expected return on plan assets (paragraphs 3461.076-.078)

	20X0	20X1
21 Fair value of plan assets — Jan. 1 (Line 11)	$1,500,000	$1,856,000
22 Contributions (mid-year) ((Line 6 + Line 7) x 0.5)	75,000	102,500
23 Benefit payments (mid-year) (Line 8 x 0.5)	(15,000)	(19,500)
24 Sub-total	$1,560,000	$1,939,000
25 Expected return on plan assets (Line 1 x Line 24)	$ 117,000	$ 145,425

Exhibit III — Actuarial gain (loss) on plan assets (paragraphs 3461.087-.093)

	20X0	20X1
26 Actual return on plan assets (Line 20)	$236,000	$(34,000)
27 Expected return on plan assets (Line 25)	117,000	145,425
28 Actuarial gain (loss) on plan assets	$119,000	$(179,425)

Exhibit IV — Interest cost on accrued benefit obligation (paragraph 3461.075)

	20X0	20X1
29 Accrued benefit obligation — Jan. 1 (Line 9)	$(2,000,000)	$(2,080,000)
30 Current service cost (Line 5 + Line 7)	(135,000)	(158,200)
31 Past service costs (Line 13)	—	(125,000)
32 Benefit payments (mid-year) (Line 8 x 0.5)	15,000	19,500
33 Accrued benefit obligation — average balance for the year	$(2,120,000)	$(2,343,700)
34 Interest cost on accrued benefit obligation (Line 2 x Line 33)	$ (137,800)	$ (140,622)

Exhibit V — Actuarial gain (loss) on accrued benefit obligation (paragraphs 3461.087-.093)

	20X0	20X1
35 Accrued benefit obligation — Jan. 1 (Line 9)	$(2,000,000)	$(2,080,000)
36 Current service cost, net of employee contributions (Line 5)	(100,000)	(118,200)
37 Past service costs (Line 13)	—	(125,000)

38 Contributions by the employees (Line 7)	(35,000)	(40,000)
39 Interest cost on accrued benefit obligation (Line 34)	(137,800)	(140,622)
40 Benefit payments (Line 8)	30,000	39,000
41 Expected accrued benefit obligation	(2,242,800)	(2,464,822)
42 Accrued benefit obligation — Dec. 31 (Line 10)	(2,080,000)	(2,474,000)
43 Actuarial gain (loss) on accrued benefit obligation	$ 162,800	$ (9,178)

Exhibit VI — Required amortization of unamortized net actuarial gain (paragraphs 3461.087-.093)

	20X0	20X1
44 Accrued benefit obligation — Jan. 1 (Line 9)	$2,000,000	$2,080,000
45 Fair value of plan assets — Jan. 1 (Line 11)	$1,500,000	$1,856,000
46 10% of the greater of Line 44 and Line 45	$ 200,000	$ 208,000
47 Unamortized net actuarial gain — Jan. 1 (Line 50)	$ —	$ 281,800
48 Amount subject to amortization (excess of Line 47 over Line 46, if any)	$ —	$ 73,800
49 Minimum required amortization (Line 48 ÷ Line 4)	$ —	$ 6,150

Exhibit VII — Schedule of unamortized net actuarial gain (paragraphs 3461.087-.093)

	20X0	20X1
50 Unamortized net actuarial gain — Jan. 1	$ —	$281,800
51 Amortization for current year (Line 49)	—	(6,150)
52 Actuarial gain (loss) on accrued benefit obligation (Line 43)	162,800	(9,178)
53 Actuarial gain (loss) on plan assets (Line 28)	119,000	(179,425)
54 Unamortized net actuarial gain — Dec. 31	$281,800	$ 87,047

Exhibit VIII — Amortization of past service costs (paragraphs 3461.079-.086)

	20X0	20X1
55 Unamortized past service costs — Jan. 1 (Line 13)	$ —	$125,000
56 Amortization for current year (Line 55 ÷ Line 14)	—	10,417
57 Unamortized past service costs — Dec. 31	$ —	$114,583

Exhibit IX — Amortization of transitional obligation (paragraphs 3461.164-.172)

	20X0	20X1
58 Unamortized transitional obligation — Jan. 1 (the amount for 20X0 is Line 9 – Line 11 for that year)	$500,000	$458,333
59 Amortization for current year ($500,000 ÷ 12)	41,667	41,667
60 Unamortized transitional obligation — Dec. 31	$458,333	$416,666

Exhibit X — Determination of pension cost (paragraphs 3461.069-.095)

	20X0	20X1
61 Current service cost, net of employee contributions (Line 5)	$100,000	$118,200
62 Interest cost on accrued benefit obligation (Line 34)	137,800	140,622
63 Expected return on plan assets (Line 25)	(117,000)	(145,425)
64 Amortization of transitional obligation (Line 59)	41,667	41,667
65 Amortization of past service costs (Line 56)	—	10,417
66 Amortization of net actuarial gain (Line 49)	—	(6,150)
67 Pension cost	$162,467	$159,331

Exhibit XI — Accrued benefit liability (paragraphs 3461.029-.065)

	20X0	20X1
68 Accrued benefit liability — Jan. 1	$ —	$ (47,467)
69 Pension cost for the year (Line 67)	(162,467)	(159,331)
70 Contributions by the Company (Line 6)	115,000	165,000
71 Accrued benefit liability — Dec. 31	$ (47,467)	$ (41,798)

Exhibit XII — Reconciliation of accrued benefit obligation to accrued benefit liability

	20X0	20X1
72 Accrued benefit obligation — Dec. 31 (Line 10)	$(2,080,000)	$(2,474,000)
73 Plan assets at fair value — Dec. 31 (Line 12)	1,856,000	1,988,000
74 Funded status — plan deficit	(224,000)	(486,000)
75 Unamortized transitional obligation (Line 60)	458,333	416,666
76 Unamortized past service costs (Line 57)	—	114,583
77 Unamortized net actuarial gain (Line 54)	(281,800)	(87,047)
78 Accrued benefit liability — Dec. 31 (Line 71)	$ (47,467)	$ (41,798)

Journal entries

	20X0		20X1	
Dr. Pension expense	162,467		159,331	
Cr. Accrued benefit liability		162,467		159,331
To record the current year's pension cost (Line 67)				

Dr. Accrued benefit liability	115,000		165,000	
Cr. Cash		115,000		165,000

To record the payment of funding contributions by the Company (Line 6)

Note:

In practice, actuarial valuations are commonly performed at the beginning of the year using assumptions as of that date. The expense amounts determined from these actuarial valuations are then used for the interim and year-end financial statements for that year. However, the year-end accrued benefit obligation disclosed in the financial statements is required to reflect the year-end discount rate. This result is generally achieved by updating the beginning-of-year valuation using the year-end discount rate while keeping all other assumptions constant. The difference between the two accrued benefit obligation amounts is an actuarial gain or loss on the accrued benefit obligation, which is added to the net unamortized actuarial gain or loss and not amortized until the next year. At the start of the next year, the actuarial valuation is recomputed, this time with the updated discount rate that was used to calculate the accrued benefit obligation for disclosure purposes at the end of the prior year and with all other assumptions updated. This recomputation could result in another actuarial gain or loss which is then also added to the net unamortized actuarial gain or loss amount as of the beginning of the year. The distinction between these two sources of actuarial gains or losses on the accrued benefit obligation has not been reflected in the above example.

SITUATION II
Pension Plan Using Market-Related Value of Plan Assets for Calculating Expected Return

Situation II assumes that XYZ Company uses a market-related value for plan assets in determining the expected return on plan assets, which affects the computation of pension cost and accrued benefit liability. The elements of this situation are the same as the elements of Situation I, except as follows (line number references are to Situation I when there is no corresponding line number in this situation; line number references specify Situation II when the amount for a line may differ from the amount for the corresponding line in Situation I):

	20X0	20X1
Annual amounts		
11a Market-related value of plan assets — Jan. 1, 20X0	$1,500,000	$ —
11b Number of years over which changes in the fair value of plan assets are reflected in the market-related value	5	5

Exhibit II — Expected return on plan assets and market-related value of plan assets (paragraphs 3461.076-.078)

	20X0	20X1
21 Market-related value of plan assets — Jan. 1, 2000 (Line 11a FOR 20x0)	$1,500,000	$1,737,000
22 Contributions (mid-year) ((Line 6 + Line 7) x 0.5)	75,000	102,500
23 Benefit payments (mid-year) (Line 8 x 0.5)	(15,000)	(19,500)

24 Sub-total	$1,560,000	$1,820,000
25 Expected return on plan assets (Line 1 x Line 24, Situation II)	$117,000	$136,500
25a Market-related value of plan assets — Jan. 1 (Line 21, Situation II)	1,500,000	1,737,000
25b Contributions (Line 6 + Line 7)	150,000	205,000
25c Benefit payments (Line 8)	(30,000)	(39,000)
25d Adjustment for prior years' actuarial gain on plan assets (Line 28a)	—	23,800
25e Market-related value of plan assets — Dec. 31	1,737,000	2,063,300
25f Fair value of plan assets — Dec. 31 (Line 12)	1,856,000	1,988,000
25g Actuarial gain (loss) on plan assets not included in ending balance of market-related value — Dec. 31	$ 119,000	$ (75,300)

Exhibit III — Actuarial gain (loss) on plan assets (paragraphs 3461.087-.093)

	20X0	20X1
26 Actual return on plan assets (Line 20)	$236,000	$(34,000)
27 Expected return on plan assets (Line 25, Situation II)	117,000	136,500
28 Actuarial gain (loss) on plan assets	$119,000	$(170,500)
28a Annual adjustment on a straight-line basis over the following 5 years (Line 28, Situation II ÷ Line 11b)	$ 23,800	$ (34,100)

Exhibit VI — Required amortization of unamortized net actuarial gain (paragraphs 3461.087-.093)

	20X0	20X1
44 Accrued benefit obligation — Jan. 1 (Line 9)	$2,000,000	$2,080,000
45 Market-related value of plan assets — Jan. 1 (Line 21, Situation II)	$1,500,000	$1,737,000
46 10% of the greater of Line 44, Situation II and Line 45, Situation II	$ 200,000	$ 208,000
47 Unamortized net actuarial gain — Jan. 1 (Line 50, Situation II)	$ —	$281,800
47a Less: actuarial gain not yet included in market-related value of plan assets — Jan. 1 (Line 25g)	—	119,000
47b Sub-total	$ —	$162,800
48 Amount subject to amortization (excess of Line 47b over Line 46, Situation II, if any)	$ —	$ —
49 Minimum required amortization (Line 48, Situation II ÷ Line 4)	$ —	$ —

Exhibit VII — Schedule of unamortized net actuarial gain (paragraphs 3461.087-.093)

	20X0	20X1
50 Unamortized net actuarial gain — Jan. 1	$ —	$281,800
51 Amortization for current year (Line 49, Situation II)	—	—
52 Actuarial gain (loss) on accrued benefit obligation (Line 43)	162,800	(9,178)
53 Actuarial gain (loss) on plan assets (Line 28, Situation II)	119,000	(170,500)
54 Unamortized net actuarial gain — Dec. 31	$281,800	$102,122

Exhibit X — Determination of pension cost (paragraphs 3461.069-.095)

	20X0	20X1
61 Current service cost, net of employee contributions (Line 5)	$100,000	$118,200
62 Interest cost on accrued benefit obligation (Line 34)	137,800	140,622
63 Expected return on plan assets (Line 25, Situation II)	(117,000)	(136,500)
64 Amortization of transitional obligation (Line 59)	41,667	41,667
65 Amortization of past service costs (Line 56)	—	10,417
66 Amortization of net actuarial gain (Line 49, Situation II)	—	—
67 Pension cost	$162,467	$174,406

Exhibit XI — Accrued benefit liability (paragraphs 3461.029-.065)

	20X0	20X1
68 Accrued benefit liability — Jan. 1	$ —	$ (47,467)
69 Pension cost for the year (Line 67, Situation II)	(162,467)	(174,406)
70 Contributions by the Company (Line 6)	115,000	165,000
71 Accrued benefit liability — Dec. 31	$(47,467)	$(56,873)

Exhibit XII — Reconciliation of accrued benefit obligation to accrued benefit liability

	20X0	20X1
72 Accrued benefit obligation — Dec. 31 (Line 10)	$(2,080,000)	$(2,474,000)
73 Plan assets at fair value — Dec. 31 (Line 12)	1,856,000	1,988,000
74 Funded status — plan deficit	(224,000)	(486,000)
75 Unamortized transitional obligation (Line 60)	458,333	416,666
76 Unamortized past service costs (Line 57)	—	114,583
77 Unamortized net actuarial gain (Line 54, Situation II)	(281,800)	(102,122)
78 Accrued benefit liability — Dec. 31 (Line 71, Situation II)	$ (47,467)	$ (56,873)

Journal entries

	20X0	20X1

Dr. Pension expense	162,467		174,406	
Cr. Accrued benefit liability		162,467		174,406
To record the current year's pension cost (Line 67)				
Dr. Accrued benefit liability	115,000		165,000	
Cr. Cash		115,000		165,000
To record the payment of funding contributions by the Company (Line 6)				

SITUATION III
Other Retirement Benefits Plan

XYZ Company provides certain retiree health and nominal life insurance benefits to its employees. The plan is unfunded and requires no contributions from employees.

In 20X0, XYZ Company adopted accrual accounting for the benefit plan. Prior to that date, XYZ Company recognized a benefit cost equal to its payments for the actual costs incurred by the retirees. At the beginning of 20X0, XYZ Company's management had an actuarial valuation done for accounting purposes, using the projected benefit method prorated on services.

The results of the valuation were:

Accrued benefit obligation, January 1, 20X0 $1,000,000

The average remaining service period of employees at the time of adoption of accrual accounting for the benefit plan was 12 years. XYZ Company has decided to amortize this transitional obligation, using a straight-line method, over 12 years.

The following amounts relate to the retiree health and life insurance plan as determined by annual valuations performed in subsequent years. Benefit payments are considered to take place in the middle of each year. Accrual for service is at the beginning of each year. The measurement date selected by XYZ Company is December 31. The Company expenses all costs recognized for the period relating to employee future benefits. This Situation is unrelated to Situations I and II (the line number references do not correspond to the lines in those situations).

	20X0	20X1
Assumptions		
1 Discount rate — Jan. 1	6.5%	6.0%
2 Average remaining service period of active employees expected to receive benefits under the benefit plan (years)	12	12
	20X0	20X1
Annual amounts		
3 Current service cost	$65,000	$78,000
4 Benefit payments	15,000	17,000
5 Accrued benefit obligation — Jan. 1	1,000,000	1,200,000
6 Accrued benefit obligation — Dec. 31	1,200,000	1,242,000

Exhibit I — Interest cost on accrued benefit obligation (paragraph < 3461 > .075)

	20X0	20X1
7 Accrued benefit obligation — Jan. 1 (Line 5)	$(1,000,000)	$(1,200,000)
8 Current service cost (Line 3)	(65,000)	(78,000)
9 Benefit payments (mid-year) (Line 4 x 0.5)	7,500	8,500
10 Average balance for year	$(1,057,500)	$(1,269,500)
11 Interest cost on accrued benefit obligation (Line 1 x Line 10)	$ (68,737)	$ (76,170)

Exhibit II — Actuarial gain (loss) on accrued benefit obligation (paragraphs 3461.087-.093)

	20X0	20X1
12 Accrued benefit obligation — Jan. 1 (Line 5)	$(1,000,000)	$(1,200,000)
13 Current service cost (Line 3)	(65,000)	(78,000)
14 Interest cost on accrued benefit obligation (Line 11)	(68,737)	(76,170)
15 Benefit payments (Line 4)	15,000	17,000
16 Expected accrued benefit obligation	(1,118,737)	(1,337,170)
17 Accrued benefit obligation — Dec. 31 (Line 6)	(1,200,000)	(1,242,000)
18 Actuarial gain (loss) on accrued benefit obligation	$ (81,263)	$ 95,170

Exhibit III — Required amortization of unamortized net actuarial loss (paragraphs 3461.087-.093)

	20X0	20X1
19 10% of accrued benefit obligation — Jan. 1 (Line 5 x 0.1)	$100,000	$120,000
20 Unamortized net actuarial loss — Jan. 1 (Line 23)	$ —	$(81,263)
21 Amount subject to amortization (excess of Line 20 over Line 19, if any)	$ —	$ —
22 Minimum required amortization (Line 21 ÷ Line 2)	$ —	$ —

Exhibit IV — Schedule of unamortized net actuarial gain (loss) (paragraphs 3461.087-.093)

	20X0	20X1
23 Unamortized net actuarial gain (loss) — Jan. 1	$ —	$(81,263)
24 Amortization for current year (Line 22)	—	—
25 Actuarial gain (loss) on accrued benefit obligation (Line 18)	(81,263)	95,170
26 Unamortized net actuarial gain (loss) — Dec. 31	$(81,263)	$ 13,907

Exhibit V — Determination of benefit cost (paragraphs 3461.069-.095)

	20X0	20X1
27 Current service cost (Line 3)	$65,000	$78,000
28 Interest cost on accrued benefit obligation (Line 11)	68,737	76,170
29 Amortization of transitional obligation (1,000,000 ÷ 12)	83,333	83,333
30 Amortization of net actuarial loss (gain) (Line 22)	—	—
31 Benefit cost	$217,070	$237,503

Exhibit VI — Accrued benefit liability (paragraphs 3461.029-.065)

	20X0	20X1
32 Accrued benefit liability — Jan. 1	$ —	$(202,070)
33 Benefit cost for the year (Line 31)	(217,070)	(237,503)
34 Benefit payments (Line 4)	15,000	17,000
35 Accrued benefit liability — Dec. 31	$(202,070)	$(422,573)

Exhibit VII — Reconciliation of accrued benefit obligation to accrued benefit liability

	20X0	20X1
36 Accrued benefit obligation — Dec. 31 (Line 6)	$(1,200,000)	$(1,242,000)
37 Unamortized transitional obligation	916,667	833,334
38 Unamortized net actuarial loss (gain) (Line 26)	81,263	(13,907)
39 Accrued benefit liability (Line 35)	$ (202,070)	$ (422,573)

Journal entries

	20X0		20X1	
Dr. Benefit expense	217,070		237,503	
Cr. Accrued benefit liability		217,070		237,503
To record the current year's benefit cost (Line 31)				
Dr. Accrued benefit liability	15,000		17,000	
Cr. Cash		15,000		17,000
To record the payment of benefits to, or on behalf of, retirees in the current year (Line 4)				

Example 2 — Disclosures

SITUATION I
Public Company Disclosure

Company A is a public company with a number of defined benefit and defined contribution plans of different types. The illustration provides disclosures for the fiscal year ended December 31, 20X3, with comparative figures for the prior year. The Company has undertaken several non-routine transactions affecting its benefit plans so that the illustration includes most of the possible disclosures an entity might be required to make. Consequently, the illustration should not be considered typical of the disclosure most entities would make routinely. The

Company has not offered any special termination benefits to employees. All amounts are in thousands of dollars.

Note 1: Significant accounting policies

(e) Pension and Other Retirement Benefit Plans

- The actuarial determination of the accrued benefit obligations for pensions and other retirement benefits uses the projected benefit method prorated on service (which incorporates management's best estimate of future salary levels, other cost escalation, retirement ages of employees and other actuarial factors).
- For the purpose of calculating the expected return on plan assets, those assets are valued at fair value.
- Actuarial gains (losses) arise from the difference between actual long-term rate of return on plan assets for a period and the expected long-term rate of return on plan assets for that period or from changes in actuarial assumptions used to determine the accrued benefit obligation. The excess of the net accumulated actuarial gain (loss) over 10 percent of the greater of the benefit obligation and the fair value of plan assets is amortized over the average remaining service period of active employees. The average remaining service period of the active employees covered by the pension plan is 15 years (20X3) and 16 years (20X2). The average remaining service period of the active employees covered by the other retirement benefits plan is 16 years (20X3) and 15 years (20X2).
- Past service costs arising from plan amendments are deferred and amortized on a straight-line basis over the average remaining service period of employees active at the date of amendment.
- On January 1, 20X0, the Company adopted the new accounting standard on employee future benefits using the prospective application method. The Company is amortizing the transitional obligation on a straight-line basis over 15 years, which was the average remaining service period of employees expected to receive benefits under the benefit plan as of January 1, 20X0.
- When the restructuring of a benefit plan gives rise to both a curtailment and a settlement of obligations, the curtailment is accounted for prior to the settlement.
- Defined contribution plan accounting is applied to a multiemployer defined benefit plan for which the Company has insufficient information to apply defined benefit plan accounting.

Note X: Pension and other retirement benefit plans

Description of benefit plans

The Company has a number of funded and unfunded defined benefit plans, as well as defined contribution plans, that provide pension, other retirement and post-employment benefits to most of its employees. Its defined benefit pension plans are based on years of service and final average salary. Pension benefits will increase annually by 50 percent of the rate of inflation.

Other retirement benefit plans are contributory health care plans with employee contributions adjusted annually, and non-contributory life insurance plans. A plan also provides long- and short-term disability income benefits after employment, but before retirement.

The Company acquired FV Industries in late 20X2 (see Note Y), including its pension and other retirement plans. Subsequent restructuring in 20X2 included termination of employees due to plant closures. This resulted in a curtailment gain ($180), a settlement gain ($3) and contractual termination costs ($59) that together improved earnings by $124. Plan amendments, made to be consistent with the FV Industries plans, resulted in past service costs of $195.

Total cash payments

Total cash payments for employee future benefits for 20X3, consisting of cash contributed by the Company to its funded pension plans, cash payments directly to beneficiaries for its unfunded other benefit plans, cash contributed to its defined contribution plans, and cash contributed to its multiemployer defined benefit plan, was $299 (a) (20X2 – $269 (a)).

Explanatory note:

This note explains the derivation of the numbers in the example above; it is not meant to be included in the financial statements.

(a) Total cash payments for employee future benefits is derived as follows:

Description	20X3	20X2	Source
Employer contributions to funded pension plans	$ 94	$ 75	Reconciliation of plan assets — "Employer contributions"
Benefits paid directly to beneficiaries for unfunded other benefit plans	80	70	Reconciliation of accrued benefit obligation — Other benefit plans, "Benefits paid"
Cash contributed to defined contribution plans	75	75	Total cost recognized for defined contribution plans less amortization of past service costs
Cash contributed to the multiemployer defined benefit plan	50	49	"Defined contribution and other plans"
Total cash payments for employee future benefits	$299	$269	

Defined benefit plans

The Company measures its accrued benefit obligations and the fair value of plan assets for accounting purposes as at October 31 of each year. The most recent actuarial valuation of the pension plans for funding purposes was as of January 1, 20X2, and the next required valuation will be as of January 1, 20X5.

Defined benefit plan obligations

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Accrued benefit obligation —				
Balance at beginning of year	$1,801	$1,269	$1,210	$ 738
Current service cost	80	76	40	36
Interest cost	118	77	79	44
Benefits paid	(140)	(125)	(80)	(70)

Actuarial (gains) losses	40	(25)	30	(22)
Foreign exchange rate changes	3	(21)	—	—
Plan amendments	—	120	—	75
Acquisitions	—	907	—	600
Divestitures	—	(246)	—	(89)
Corporate restructuring giving rise to:				
Settlements	—	(153)	—	—
Curtailments	—	(78)	—	(102)
Balance at end of year	$1,902	$1,801	$1,279	$1,210

Defined benefit plan assets

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Fair value of plan assets —				
Balance at beginning of year	$1,913	$1,076	$ —	$ —
Actual return on plan assets	20	29	—	—
Employer contributions	94	75	—	—
Employees' contributions	22	21	—	—
Benefits paid	(140)	(125)	—	—
Foreign exchange rate changes	8	(33)	—	—
Acquisitions	—	1,310	—	—
Divestitures	—	(231)	—	—
Corporate restructuring giving rise to:				
Settlements	—	(150)	—	—
Termination payments	—	(59)	—	—
Balance at end of year	$1,917	$1,913	$ —	$ —

Plan assets consist of: *

Asset category	Percentage of plan assets			
	20X3		20X2	
Equity securities	57	%	54	%
Debt securities	30		31	
Real estate	10		12	
Other	3		3	
Total	100	%	100	%

Equity securities include the Company's common shares in the amounts of $165 (8.6 percent of total plan assets) and $163 (8.5 percent of total plan assets) at December 31, * 20X3 and 20X2 respectively.

* Measured as of the measurement date of October 31 of each year.

Reconciliation of the funded status of the benefit plans to the amounts recorded in the financial statements

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Fair value of plan assets	$1,917	$1,913	$ —	$ —
Accrued benefit obligation	1,902	1,801	1,279	1,210
Funded status of plans — surplus (deficit)	15	112	(1,279)	(1,210)
Unamortized net actuarial loss	226	64	68	38
Unamortized past service costs	325	352	505	550
Unamortized transitional obligation	121	132	—	—
Accrued benefit asset (liability)	687	660	(706)	(622)
Valuation allowance	(35)	(35)	—	—
Accrued benefit asset (liability), net of valuation allowance	$ 652	$ 625	$ (706)	$ (622)

The accrued benefit asset (liability), net of valuation allowance, is included in the Company's balance sheet as follows:

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Other assets	$ 677	$ 655	$ —	$ —
Accounts payable and accrued charges	(25)	(30)	(18)	(26)
Other long-term liabilities	—	—	(688)	(596)
Total	$ 652	$ 625	$ (706)	$ (622)

Plans with accrued benefit obligations in excess of plan assets

Included in the above accrued benefit obligation and fair value of plan assets at year end are the following amounts in respect of plans that are not fully funded:

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Accrued benefit obligation	$1,680	$1,436	$ 1,279	$ 1,210
Fair value of plan assets	1,300	1,109	—	—
Funded status — plan deficit	$ (380)	$ (327)	$(1,279)	$(1,210)

Elements of defined benefit costs recognized in the year

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Current service cost, net of employee contributions	$ 58	$ 55	$ 40	$ 36
Interest cost	118	77	79	44
Actual return on plan assets	(20)	(29)	—	—

Actuarial (gains) losses	40	(25)	30	(22)
Plan amendments	—	120	—	75
Curtailment gain	—	(78)	—	(102)
Settlement gain	—	(3)	—	—
Contractual termination benefits	—	59	—	—
Elements of employee future benefits costs before adjustments to recognize the long-term nature of employee future benefit costs	196	176	149	31
Adjustments to recognize the long-term nature of employee future benefit costs:				
Difference between expected return and actual return on plan assets for year	(123) (a)	(51)	—	—
Difference between actuarial (gain) loss recognized for year and actual actuarial (gain) loss on accrued benefit obligation for year	(40) (b)	25	(30)	22
Difference between amortization of past service costs for year and actual plan amendments for year	28 (c)	(92)	45	(30)
Amortization of the transitional obligation	11	11	—	—
	(124)	(107)	15	(8)
Valuation allowance provided against the accrued benefit asset	—	35	—	—
Defined benefit costs recognized	$ 72	$104	$164	$ 23

Explanatory notes:

These notes explain the derivation of the numbers in the example above; they are not meant to be included in the financial statements.

(a) Expected return on plan assets of $(143) – the deferral of the actual return on plan assets of $(20) = $(123).

(b) Actuarial (gain) loss recognized for year of $nil – actual actuarial (gain) loss on accrued benefit obligation for year of $40 = $(40).

(c) Amortization of past service costs for year of $28 – actual plan amendments for year of $nil = $28.

Significant assumptions

The significant assumptions used are as follows (weighted average):

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Accrued benefit obligation as of December 31:				
Discount rate	5.5%	6.5%	5.5%	6.5%
Rate of compensation increase	3.5%	4.0%	—	—

Benefit costs for years ended December 31:				
Discount rate	6.5%	6.0%	6.5%	6.0%
Expected long-term rate of return on plan assets	7.5%	7.5%	—	—
Rate of compensation increase	4.0%	4.0%	—	—

Assumed health care cost trend rates at December 31:

	20X3	20X2
Initial health care cost trend rate	15%	10%
Cost trend rate declines to	8%	4%
Year that the rate reaches the rate it is assumed to remain at	2010	2009

Sensitivity analysis

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A one-percentage-point change in assumed health care cost trend rates would have the following effects for 20X3:

	Increase	Decrease
Total of service and interest cost	$ 22	$ (20)
Accrued benefit obligation	$173	$(156)

Defined contribution and other plans

The total cost recognized (a) for the Company's defined contribution plans is as follows:

	20X3	20X2
Plans providing pension benefits	$70	$71
Plans providing other benefits	$17	$16

One of the Company's divisions participates in a multiemployer defined benefit plan providing both pension and other retirement benefits. This plan, to which contributions totalled $50 in 20X3 and $49 in 20X2, is accounted for as a defined contribution plan. These amounts are not included in the cost recognized for the defined contribution plan above. The Company's contribution per employee hour increased by 20 percent in 20X2 to fund improved plan benefits.

Explanatory note:

This note explains the derivation of the numbers in the example above; it is not meant to be included in the financial statements.

(a) The total cost recognized for the Company's defined contribution pension benefit plans includes amortization of past service costs of $12 (20X2 – $12).

SITUATION II
Non-Public Company Disclosure

This illustration provides disclosures for Company B for 20X3 and 20X2 based on the same facts and circumstances as in Situation I for Company A except that Company B is non-public. Paragraph 3461.159 provides relief from certain disclosure requirements for entities other than public enterprises, co-operative organizations, deposit-taking institutions and life insurance enterprises. Situation

II provides a reference to Situation I when the disclosure requirements between these Situations are the same. Situation II provides sample disclosures for requirements that differ from Situation I.

This illustration involves relatively uncommon circumstances for a non-public entity, in order to indicate the disclosures that might be required for such entities under the requirements set out in this Section. In more usual circumstances, the required disclosure would be considerably less.

Company B's significant accounting policy note is the same as Company A's in Situation I.

Note X: Pension and other retirement benefit plans

Company B's description of benefit plans is the same as Company A's in Situation I with the exception of the following additional details, which Company A provides as part of disclosures not required by Company B:

	Pension benefit plans		Other benefit plans
	Plan assets	Benefit obligation	Benefit obligation
Acquisition of FV Industries	$1,310	$ 907	$ 600
Sale of operations	(231)	(246)	(89)
Settlement gain	(150)	(153)	—
Curtailment gain	—	(78)	(102)
Contractual termination benefits	(59)	—	—
Plan amendments	—	120	75

Company B's disclosures of total cash payments, information about measurement and valuation dates, and plan asset mix are the same as Company A's in Situation I.

Reconciliation of the funded status of the benefit plans to the amounts recorded in the financial statements

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Accrued benefit obligation	$1,902	$1,801	$1,279	$1,210
Fair value of plan assets	1,917	1,913	—	—
Funded status of plans — plan surplus (deficit)	15	112	(1,279)	(1,210)
Balance of unamortized amounts	672	548	573	588
Accrued benefit asset (liability)	687	660	(706)	(622)
Valuation allowance	(35)	(35)	—	—
Accrued benefit asset (liability), net of valuation allowance	$ 652	$ 625	$ (706)	$ (622)
	=====	=====	=====	=====

Company B's disclosures of the balance sheet classification of the accrued benefit asset (liability) and on plans with accrued benefit obligations in excess of plan assets are the same as Company A's in Situation I.

Employee future benefits costs recognized in the year

	Pension benefit plans		Other benefit plans	
	20X3	20X2	20X3	20X2
Defined benefit plans	$72	$104	$164	$23

Defined contribution plans (a)	$70	$ 71	$ 17	$16

Explanatory note:

This note explains the derivation of the numbers in the example above; it is not meant to be included in the financial statements.

(a) The employee future benefits costs recognized in the year for defined contribution pension benefit plans includes amortization of past service costs of $12 (20X2 – $12).

Company B's disclosure of significant assumptions is the same as Company A's in Situation I.

Benefits paid

Benefits paid by pension benefit plans were $140 (20X2 — $125) and by other benefit plans were $80 (20X2 — $70).

Company B's explanatory paragraph about the multiemployer defined benefit plan is the same as Company A's in Situation I.

Example 3 — Transition

Company D sponsors a defined benefit pension plan. The Company uses the balance sheet date of December 31 as the measurement date. Until December 31, 1999, the Company had been accounting for its pension plans using a long-term rate of return to measure its accrued benefit obligation and a market-related value to measure its pension plan assets. Effective January 1, 2000, the Company began applying this Section and changed to a market rate to measure its accrued benefit obligation and fair value to measure its pension plan assets. The following amounts relate to the Company's pension experience as determined by annual valuations:

Assumptions	Jan. 1, 2000
1 Expected long-term rate of return on plan assets	7.5%
2 Discount rate — Jan. 1	6.5%
3 Average remaining service period of active employees expected to receive benefits under the pension plan (years)	12
Annual amounts	Jan. 1, 2000
4 Accrued benefit obligation using a long-term rate of return (old method)	$2,750,000
5 Accrued benefit obligation using a market rate (new method)	3,000,000
6 Fair value of plan assets (new method)	3,600,000
7 Market-related value of plan assets (old method)	2,950,000
8 Accrued benefit asset	150,000
9 Unamortized net actuarial gain (old method)	175,000
10 Unamortized past service costs (old method)	75,000
11 Unamortized transitional balance (old method)	50,000

Exhibit I — Transitional asset at January 1, 2000 (paragraphs 3461.164-.172)

	Jan. 1, 2000
12 Fair value of plan assets (new method) (Line 6)	$3,600,000
13 Accrued benefit obligation (new method) (Line 5)	3,000,000
14 Funded status — plan surplus	600,000

15 Accrued benefit asset (Line 8)	150,000
16 Transitional asset	$450,000

Exhibit II — Components of the transitional asset (paragraphs 3461.164-.172)

	Jan. 1, 2000
17 Change in the value of plan assets — Jan. 1, 2000 (Line 6 – Line 7)	$650,000
18 Change in the accrued benefit obligation — Jan. 1 (Line 4 – Line 5)	(250,000)
19 Unamortized net actuarial gain under the old method (Line 9)	175,000
20 Unamortized past service costs under the old method (Line 10)	(75,000)
21 Unamortized transitional balance under the old method (Line 11)	(50,000)
22 Transitional asset — Jan. 1 (Line 16)	$450,000

The unamortized balances arising up to December 31, 1999, i.e., the unamortized net actuarial gain, the unamortized past service costs and the unamortized transitional balance, are included in the transitional asset determined in accordance with this Section. The previous amortization schedules cease to apply.

SITUATION I
Prospective Method of Application

The Company selects the prospective method of adopting this Section and amortizes the transitional asset computed in Exhibit I on a straight-line basis over the average remaining service period of active employees expected to receive benefits under the pension plan, i.e., 12 years.

Exhibit III — Amortization of transitional asset and unamortized transitional asset (paragraphs 3461.164-.172)

23 Transitional asset — Jan. 1, 2000 (Line 16)	$450,000
24 Amortization for current year (Line 23 ÷ Line 3)	(37,500)
25 Unamortized transitional asset — Dec. 31, 2000	$412,500

The accrued benefit asset balance at January 1, 2000 remains at $150,000 (Line 8). The amortization on line 24 is included in the determination of net income for the year ended December 31, 2000 and, thus, will affect the balance of the accrued benefit asset at that date.

SITUATION II
Retroactive Method of Application

The Company selects the retroactive method of adopting this Section and adjusts the opening balance of retained earnings on January 1, 2000 for the cumulative effect of the change on prior periods.

Exhibit IV — Unamortized transitional asset (paragraphs 3461.164-.172)

26 Transitional asset — Jan. 1, 2000 (Line 16)	$ 450,000
27 Retroactive restatement to opening retained earnings on January 1, 2000	(450,000)
28 Unamortized transitional asset — Dec. 31, 2000	$ —

The accrued benefit asset on January 1, 2000 is $600,000, consisting of $450,000 (Line 16) + $150,000 (Line 8). Company D may have chosen to recognize the transitional asset retroactively by restating individual prior periods.

IN THE SUPREME COURT OF BRITISH COLUMBIA

Citation: ***Scarlett v. FortisBC Inc.,***
2007 BCSC 43

Date: 20060111
Docket: S36114
Registry: Vernon

Between:

Donald Scarlett

Plaintiff

And

FortisBC Inc.

Defendant

Before: The Honourable Mr. Justice Rogers

Reasons for Judgment

Counsel for the Plaintiff:	G.J. Skobalski
Counsel for the Defendant:	G.K. McIntosh, Q.C. R.J. McDonell
Date and Place of Hearing:	December 13, 2006 Kelowna, B.C.

Introduction

[1] The plaintiff has applied to certify this action pursuant to s. 2 of the ***Class Proceedings Act***, R.S.B.C. 1996, c. 50. The defendant opposes the application on the ground that the statement of claim does not describe a cause of action. The primary issue is whether the plaintiff has alleged sufficient facts to make out a claim that the defendant has charged the plaintiff interest that exceeds the maximum rate prescribed by s. 347 of the ***Criminal Code***.

The Test

[2] The ***Class Proceedings Act*** stipulates that, in order to be certified, a proposed class action must disclose a cause of action: s. 4(1)(a). The test to be applied is essentially the same test as is applied in an application under Rule 19(24)(a) of the ***Rules of Court***. That test was articulated by the Supreme Court of Canada in ***Hunt v. Carey Canada Inc.***, [1990] 2 S.C.R. 959:

> Thus, the test in Canada governing the application of provisions like Rule 19(24)(a) of the British Columbia *Rules of Court* is the same as the one that governs an application under R.S.C. O. 18, r. 19: assuming that the facts as stated in the statement of claim can be proved, is it "plain and obvious" that the plaintiff's statement of claim discloses no reasonable cause of action? As in England, if there is a chance that the plaintiff might succeed, then the plaintiff should not be "driven from the judgment seat". Neither the length and complexity of the issues, the novelty of the cause of action, nor the potential for the defendant to present a strong defence should prevent the plaintiff from proceeding with his or her case. Only if the action is certain to fail because it contains a radical defect ranking with the others listed in Rule 19(24) of the British Columbia *Rules of Court* should the relevant portions of a plaintiff's statement of claim be struck out under Rule 19(24)(a).

[3] The court must assume that all of the facts pled are true when it assesses whether the claim plainly and obviously discloses no cause of action: ***Citizens for Foreign Aid Reform Inc. v. Canadian Jewish Congress*** (1999), 36 C.P.C. (4th) 266 (B.C.S.C.).

The Pleading

[4] The plaintiff's amended statement of claim alleges that he is a member of a class of persons who were, prior to November 1, 2004, residential customers of the defendant. The defendant was in the business of selling electricity to its customers. The plaintiff alleges that during the relevant period the defendant effectively charged its residential customers a monthly interest rate of 10 percent on payments made more than 14 days after the billing date. The plaintiff asserts that this rate of interest exceeds the maximum rate of interest permitted by s. 347 of the ***Criminal Code***. The plaintiff says that the defendant cannot be permitted to retain the excess interest it charged its customers, and among other sanctions, it must be ordered to refund those overpayments.

[5] Turning to the amended statement of claim itself, paragraphs 1 and 2 of the amended statement of claim allege who the parties are and where they reside. Paragraph 3 defines the class of persons for whose benefit the action has been brought.

[6] Paragraphs 4 and 5 contain the facts upon which the plaintiff's claim is based. Those paragraphs say:

> 4. At all material times the relationship between FortisBC and the Class was governed by arrangements or by agreements which required FortisBC to determine the charges for electricity being provided to the Class by measuring or estimating the electricity and rendering bills to the Class. Each bill specified a due date (the "Due Date") which was purported by FortisBC to be 14 days after the rendering of the bill.
>
> 5. At all material times in the event a bill was paid on or before the Due Date, FortisBC imposed a prompt payment discount (hereinafter referred to as "PPD" or collectively "PPDs") calculated as being 10% of the amount of the current charges contained in the bill.

[7] The remaining paragraphs in the amended statement of claim contain conclusions based upon the facts set out in paragraphs 4 and 5. For example, paragraph 6 asserts the legal conclusion that customers who paid their bills after the due date paid interest within the meaning of s. 347 of the ***Criminal Code***. Paragraph 10 alleges that the defendant received interest in excess of 60 percent per year and, therefore, contravened the applicable provisions of s. 347 of the ***Criminal Code***.

Discussion

[8] The question here is whether paragraphs 4 and 5 of the amended statement of claim describe facts which, assuming they are true, could lead to the conclusion that the defendant contravened the ***Criminal Code*** by charging interest in excess of 60 percent per year?

[9] The portion of the ***Criminal Code*** relevant to this proceeding is s. 347(1)(b):

> **347**(1) Notwithstanding any Act of Parliament, every one who
>
> ...

> (*b*) receives a payment or partial payment of interest at a criminal rate,
>
> is guilty...

[10] At s. 347(2), the ***Code*** defines interest thus:

> "interest" means the aggregate of all charges and expenses, whether in the form of a fee, fine, penalty, commission or other similar charge or expense or in any other form, paid or payable for the advancing of credit under an agreement or arrangement, by or on behalf of the person to whom the credit is or is to be advanced, irrespective of the person to whom any such charges and expenses are or are to be paid or payable, but does not include any repayment of credit advanced or any insurance charge, official fee, overdraft charge, required deposit balance or, in the case of a mortgage transaction, any amount required to be paid on account of property taxes;

[11] For the purposes of the ***Code*** and this application then, interest is the aggregate of charges the defendant made the plaintiff pay for advancing credit to him. It follows that an advance of credit must be made before the thing called "interest" arises.

[12] In ***Garland v. Consumers' Gas Co.***, [1998] 3 S.C.R. 112, the Supreme Court of Canada discussed the concept of an "advance of credit". Major J. said:

> 37 It is crucial to bear in mind that the "credit advanced" in such situations consists of "monetary value" -- a specific amount of money that is owed for goods, services or benefits pursuant to an agreement or arrangement -- and not the goods, services or benefits themselves. If every sale, performance of services or conveyance of benefits were understood to be an advance of "credit", there would be virtually no limit to the application of s. 347. That section, despite its broad scope, is essentially concerned with regulating the relationship between creditors and debtors, not the relationship between commercial actors in the ordinary course of business.

> 38 This distinction can be illustrated with an example. Assume the purchase of a car for $1,000. Payment of the purchase price will normally be due at a date specified in the sale agreement or when the car is tendered. No credit exists in such a situation, regardless of whether the seller is in fact paid on time, because the car is not advanced to the purchaser as "credit". However, if the seller and purchaser enter into an arrangement to delay payment of the purchase price for one month, then credit has been advanced and any premium charged by the seller for that extension of time must comply with the requirements of s. 347. The "monetary value" of the car is now a fixed amount -- $1,000 -- under their agreement, and the advancement of that credit begins at the moment when payment would otherwise have been due.
>
> 39 The car itself, which may in reality be worth more or less than $1,000, is not the "credit advanced" and is not relevant for the purposes of s. 347. If the opposite were true, it would be virtually impossible to calculate an interest rate arising from such a transaction, since the value of the credit would be undefined. In addition, and more importantly, any transaction involving an "advance" of goods, services or benefits -- such as a rental or leasing agreement -- would be swept within the ambit of s. 347, and many such transactions would undoubtedly give rise to "interest" exceeding the legal limit. Assume that instead of being purchased, the car is rented for a day at a price of $50. If the car were to constitute credit advanced under s. 347(2), then the return of the car to the rental agency would presumably be a repayment of principal, and the charge paid for the advancing of that credit -- $50 for one day -- would give rise to an astronomical interest rate based on the value of the car. Such an absurd result could not have been intended by Parliament when it adopted s. 347. For the deferral of a debt to constitute "credit advanced" under s. 347, there must be a specified amount owing, and that amount must actually be due in the absence of an arrangement permitting later payment.

[13] If, as Major J. says, interest arises only in the context of an advance of credit, then the question begged in this case is: Does the amended statement of claim describe an advance of credit by the defendant to the plaintiff such that interest could be charged upon it?

[14] As noted, only paragraphs 4 and 5 contain allegations of fact which relate to the supply and invoicing of electricity by the defendant to the plaintiff. Paragraph 4 stipulates that the due date for payment of the invoiced amount was 14 days after the invoice was rendered. Paragraph 5 repeats the allegation that there was an amount due on the due date, and goes on to assert that if payment were made before the due date, then the plaintiff would receive a 10 percent discount off the amount due.

[15] The amended statement of claim plainly defines a due date and the actual price of the electricity but says nothing about a charge levied by the defendant on credit when payment is made after that date. At most, the amended statement of claim describes a discount that is given by the defendant before payment is due.

[16] Since the defendant only allowed the discount on payments made before the due date, and since credit can arise only after payment is due, it follows that the discount cannot be associated with an advance of credit. Section 347 of the ***Code*** is concerned only with interest charged on an advance of credit. If the discount in issue here cannot be interest within the meaning of that section, then the giving of it cannot engage the ***Code***'s sanction against criminal interest.

[17] Before leaving this discussion, I will address the two arguments the plaintiff put forward in support of his position. The first argument was that, in 2004, the defendant applied to the B.C. Utilities Commission to change its rate structure, and the defendant's submission to the Commission included an acknowledgment that its

discount billing practice might be seen as charging interest in excess of the maximum allowed by the ***Code***.

[18] That argument cannot carry the day for the plaintiff. That is because the salient question here is whether the statement of claim describes a cause of action. This application must proceed on the assumption that the allegations in the statement of claim are true – and it must be confined to an analysis of the content of those pleadings. The defendant's submission to the Utilities Commission does not form part of the plaintiff's statement of claim. It is, therefore, extraneous to the analysis. In any event, the defendant's admission to the Commission that the discount could be seen to be interest was, in my view, simply an exercise in excessive caution. Given the facts described in paragraphs 4 and 5 of the statement of claim (which the defendant admitted were true), the defendant was never in any real jeopardy of contravening s. 347 of the ***Code***.

[19] The second argument the plaintiff advanced was that, when assessing whether a charge comprises interest, the court must look at the substance rather than the form of the parties' relationship (***Garland*** *supra*). The plaintiff asserts that the substance of the defendant's billing practice was to extract 10 percent more money from customers who paid after the due date than it collected from customers who paid early.

[20] That argument might have had some merit if the statement of claim had alleged that the amount due from the customer was the discounted sum. If the statement of claim had said that, then it might be argued that the plaintiff's legal

obligation to pay for all the power he used was, say, $X and that if he paid late, then the defendant would charge him $X plus 10 percent. If those had been the alleged facts, then one might have been able to conceive the 10 percent as interest on credit advanced.

[21] However, the actual substance of the relationship between the parties as alleged in the statement of claim was that the payment due for power consumed was $Y, and the due date for $Y was 14 days after the invoice was rendered. The defendant allowed its customer to retire his debt in full by paying early, and if he paid early, then the defendant agreed to accept $Y minus 10 percent in full satisfaction of the amount owing. The substance of the relationship was, therefore, that the defendant gave the customer a 10 percent break on the price of his electricity if he managed to pay his bill before the due date. The relationship did not, in substance, conceal a charge on an advance of credit. Instead, it afforded the customer a saving on early payment.

Conclusion

[22] I find that the amended statement of claim does not disclose a cause of action based upon interest. It fails to satisfy the requirement of s. 4(1)(a) of the ***Class Proceedings Act***. The application to certify the action as a class action must, therefore, be dismissed.

"P.J. Rogers, J."
The Honourable Mr. Justice Rogers

Press Release Source: Pope & Talbot

Pope & Talbot Announces Extension to Lender Agreement

Monday September 17, 2:21 pm ET

PORTLAND, Ore.--(BUSINESS WIRE)--Pope & Talbot, Inc (Pink Sheets:PTBT - News) today announced that it has agreed to an extension of its forbearance agreement with its senior secured lenders. The agreement will extend the company's access to liquidity provided by the revolving credit facility for an additional four weeks. The company will use this additional time to continue to explore options for improving its balance sheet, including but not limited to, the sale of certain or all of the company's assets.

Pope & Talbot is a pulp and wood products business. The Company is based in Portland, Oregon and trades on the Pink Sheets under the symbol PTBT. Pope & Talbot was founded in 1849 and produces market pulp and softwood lumber at mills in the US and Canada. Markets for the Company's products include the US, Europe, Canada, South America and the Pacific Rim. For more information, please check our website and www.poptal.com.

Caution Regarding Forward-Looking Statements

This press announcement and other Company communications may contain statements relating to future performance of the Company that are forward-looking statements. These statements relate to the Company's future plans, objectives, expectations and intentions and may be identified by words like "believe," "expect," "may," "will," "should," "seek," or "anticipate," and similar expressions. The Company cautions readers that any such forward-looking statements are based on assumptions that the Company believes are reasonable, but are subject to a wide range of risks including, but not limited to, risks associated with future financial results and liquidity including the Company's continued ability to finance its operations in the normal course, the continuation of the forbearance agreement without the occurrence of a termination event thereunder or the potential necessity for additional forbearance agreements, the possibility that the Company may need to commence bankruptcy proceedings, fluctuation of the borrowing base and other limitations that may affect the Company's ability to borrow under its revolving credit facilities or otherwise, the Company's relationship with and payment terms provided by its trade creditors, additional financing requirements, the results of renegotiating certain key commercial agreements, the effect of commodity and raw material prices, , foreign currency fluctuations, the effect of U.S. housing market conditions and other uncertainties previously detailed in the Company's filings with the SEC. Due to these uncertainties, there is an inherent risk that actual results will differ materially from any forward-looking statements. The Company is under no obligation to (and expressly disclaims any such obligation to) update or alter any forward-looking statements whether as a result of new information, future events or otherwise.

Contact:
For Pope & Talbot, Inc
Mark Rossolo, 503-274-4054

Source: Pope & Talbot

Form 8-K for POPE & TALBOT INC /DE/

19-Sep-2007

Entry into a Material Definitive Agreement, Financial Statements and Exhib

Item 1.01. Entry into a Material Definitive Agreement

On September 17, 2007, Pope & Talbot, Inc. (the "Company") and its wholly-owned Canadian subsidiary, Pope & Talbot Ltd., entered into an Amended Forbearance Agreement (the "Agreement") dated as of September 14, 2007 with Ableco Finance LLC, Wells Fargo Financial Corporation Canada and the other lenders under the Company's senior secured credit agreement.

The Company is in default of the covenant in its senior secured credit agreement that required the Company to generate EBITDA, as defined therein, of at least $30 million for the four-quarter period ended June 30, 2007 (the "Specified Default"). The Company previously entered into a Forbearance Agreement (the "Previous Agreement") dated as of July 31, 2007 with Ableco Finance LLC, Wells Fargo Financial Corporation Canada and the other lenders. Under the Previous Agreement, the senior lenders agreed that, until September 17, 2007 or the earlier occurrence of another default, they would forbear from exercising any rights or remedies they may have under the credit agreement arising from the Specified Default, and would permit the Company to continue to borrow under the revolving credit facility subject to all other terms and conditions of the credit agreement.

The Agreement extends until October 1, 2007 the period during which the senior lenders will forbear from exercising remedies with respect to the Specified Default and will permit the Company to continue to borrow under the revolving credit facility. The Agreement provides that the Company may elect to further extend this forbearance period until October 15, 2007. If the Company so elects, it shall become obligated to pay an extension fee of approximately $2,400,000 payable by the Company with interest at the time all other obligations under the credit agreement are paid in full.

Provisions of the Previous Agreement that reduced the availability under the revolving credit facility, applied the default interest rate to all borrowings under the credit agreement and required daily application of the Company's cash to repayment of revolving borrowings were unchanged by the Agreement.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits

4.1 Amended Forbearance Agreement dated as of September 14, 2007 between Pope & Talbot, Inc., Pope & Talbot Ltd., Ableco Finance LLC, Wells Fargo Financial Corporation Canada and the other lenders.

Press Release Source: Pope & Talbot, Inc

Pope & Talbot Announces Temporary Shutdown of Three Lumber Mills

Monday October 8, 2:36 pm ET

Grand Forks, Castlegar and Fort St. James Saw Mills to Shut-Down for Two Weeks Due to Market Conditions

PORTLAND, Ore.--(BUSINESS WIRE)--Pope & Talbot, Inc (Pink Sheets:PTBT - News) today announced a two week shutdown for saw mills located in Grand Forks, B.C., Castlegar, B.C. and Fort St. James, B.C. The mills, producers of high-quality softwood lumber products, will be shut-down for two weeks beginning October 15th to reduce finished goods inventories.

Pope and Talbot CEO Harold Stanton said the move was necessary due to the falling prices of softwood lumber products and the continued strengthening of the Canadian Dollar. "While unfortunate, the shutdowns are a necessary step to ensure the Company's profitability during these difficult times," said Stanton. "Moving forward, we will continue to make adjustments as the market dictates."

Pope & Talbot is a pulp and wood products business. The Company is based in Portland, Oregon and trades on the Pink Sheets under the symbol PTBT. Pope & Talbot was founded in 1849 and produces market pulp and softwood lumber at mills in the US and Canada. Markets for the Company's products include the US, Europe, Canada, South America and the Pacific Rim. For more information, please check our website and www.poptal.com.

Contact:
Pope & Talbot, Inc
Mark Rossolo, 503-274-405

Source: Pope & Talbot, Inc

Press Release Source: Pope & Talbot, Inc.

Pope & Talbot Announces Further Extension to Lender Agreement

Tuesday October 16, 6:01 pm ET

PORTLAND, Ore.--(BUSINESS WIRE)--Pope & Talbot, Inc. (Pink Sheets:PTBT - News), today announced that it has agreed to a further extension of its forbearance agreement with its senior secured lenders. The agreement will extend the company's access to liquidity provided by the revolving credit facility through October 26, 2007. The company will use this additional time to continue to explore options for improving its balance sheet, including, but not limited to, the sale of certain or all of the company's assets.

Pope & Talbot is a pulp and wood products business. The Company is based in Portland, Oregon, and trades on the Pink Sheets under the symbol PTBT. Pope & Talbot was founded in 1849 and produces market pulp and softwood lumber at mills in the U.S. and Canada. Markets for the Company's products include the U.S., Europe, Canada, South America and the Pacific Rim. For more information, please check our website at www.poptal.com.

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Contact:
Pope & Talbot, Inc.
Mark Rossolo, 503-274-4054

Source: Pope & Talbot, Inc.

News Release

Weyerhaeuser Restructures BC Interior Operations

VANCOUVER, BC, September 17, 2007 — Weyerhaeuser Company (NYSE: WY) announced today that it will restructure its operations in the Southern Interior of British Columbia by closing its Okanagan Falls sawmill, effective December 17, 2007, and modernizationizing its Princeton sawmill.

"The decision to close the Okanagan Falls mill and to reinvest in Princeton was taken after a thorough review of how best to strengthen our long-term competitive position in the Southern Interior," said Craig Neeser, President, Weyerhaeuser Company Limited."Today's announcement is not a reflection on the hard work of our Okanagan Falls employees, whose dedicated service has been a cornerstone of this operation. Unfortunately, the factors forcing this closure are beyond their control," he said.

Neeser said Weyerhaeuser will work with its employees and the community over the next three months to ensure everyone will be treated fairly throughout this difficult process.

As part of its plan to improve the competitiveness of this region, Weyerhaeuser also announced that further investments are planned at the Princeton sawmill over the next two years. These future plans are in addition to $5.5 million that the company will spend in 2007 to modernize the mill.

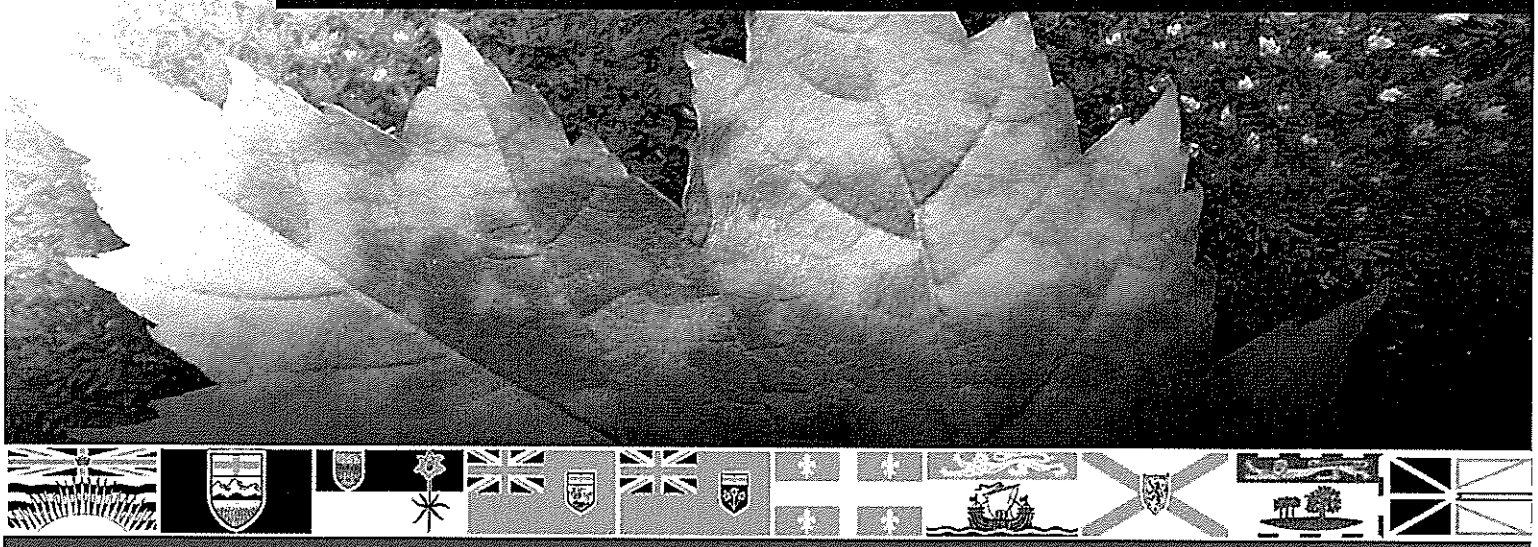
In British Columbia, Weyerhaeuser will continue to retain sawmills in Princeton and associated timber harvesting operations as well as a hardwood sawmill and an engineered wood plant in the Lower Mainland.

Weyerhaeuser Company (NYSE: WY), one of the world's largest forest products companies, was incorporated in 1900. In 2006, sales were $24.8 billion ($21.9 billion US). It has offices or operations in 18 countries, with customers worldwide. Weyerhaeuser is principally engaged in the growing and harvesting of timber; the manufacture, distribution and sale of forest products; and real estate construction, development and related activities. Weyerhaeuser Company Limited, a wholly owned subsidiary, has Exchangeable Shares listed on the Toronto Stock Exchange under the symbol WYL. Additional information about Weyerhaeuser's businesses, products and practices is available at http://www.weyerhaeuser.com.

For more information, please contact:
Canadian Media – Lawrence Pillon, (604) 661-8163
US Media – Frank Mendizabal, (253) 924-3357
Analysts – Kathryn McAuley, (253) 924-2058

The Conference Board of Canada
Insights You Can Count On

Provincial Outlook Summer 2007



Economic Forecast

ECONOMIC PERFORMANCE AND TRENDS

British Columbia

- The real GDP forecast has been revised down due to the weakness in manufacturing activity.
- Domestic activity is doing well as it benefits from stellar job creation early in 2007 and provincial fiscal relief.

Real GDP

	Growth	Ranking
2007	2.7	#5
2008	3.3	#4

Credit Quality
AAA
Standard & Poor's

Retail Sales

	Growth	Ranking
2007	5.9	#6
2008	5.9	#3

Government & Background Information

Premier	Gordon Campbell
Next election	2009
Population (2007:2)	4,352,798
Government balance (2007–08)	$400 million

Sources: The Conference Board of Canada; British Columbia Finance.

Forestry Woes Putting a Dent in Economic Growth

by Marie-Christine Bernard, Sabrina Browarski, Todd A. Crawford

The real gross domestic product (GDP) growth forecast for British Columbia in 2007 has been revised down since the Board's spring Provincial Outlook—from 3.1 per cent to 2.7 per cent. The revision is due to the weakness in manufacturing activity; in particular, for the wood products industry where nominal shipments from January to May 2007 are down nearly 20 per cent in comparison with the same period last year. The forestry sector continues to be challenged from both the supply and demand sides. Major restructuring and consolidation in the forestry industry will constrain growth this year. In addition, weak housing markets in Canada and, even more importantly, in the United States will further depress growth in the forestry sector. However, the situation will improve. With restructuring in the industry expected to be completed soon, an increase in efforts to salvage lumber damaged by the mountain pine beetle already under way, and a turnaround expected in U.S. home construction, the forestry industry is forecast to rebound in 2008. Construction activity in the province will take a breather this year as a number of projects wind down. However, with many large infrastructure and mining projects starting up, construction activity will surge ahead in 2008. A revival in the industrial and forestry sector will lift overall real GDP growth to 3.3 per cent in 2008.

The service sector is once again expected to set the pace in 2007. The domestic side of the economy will perform well over the short term. Solid employment growth early in the year, combined with provincial income tax cuts, will bolster retail sales by an average of close to 6 per cent annually over the next two years. The provincial government will also contribute to economic growth. Last year, the province realized a $4.1 billion surplus, of which $1 billion was used to pay down debt and $3.4 billion went to public capital infrastructure developments.

With the province dealing with two major labour strikes, there is downside risk to the British Columbia outlook. Around 4,000 to 5,000 Vancouver civic workers and 6,500 coastal forestry loggers and sawmill workers are affected. Logging operations in the interior forest industry, however, continue to function as usual.

MINING OUTPUT TO SURGE

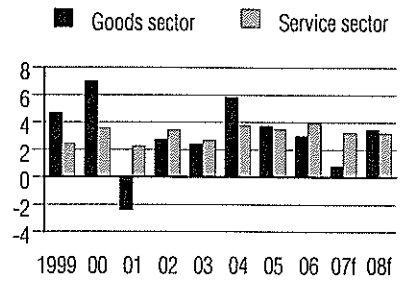
Last year, mining in British Columbia was hampered by a reduction in mineral fuels output, primarily coal. This year, mineral fuel mining will get a boost as production ramps up at the Wolverine coal mine, which began production in mid-2006, and from Peace River Coal, which received permission to increase production at its Trend coal mine to 1.6 million plant-feed tons per year. The sector will also benefit from the development of the Brule mine which came online early this year replacing production from the depleted Dillon coal mine. All in all, mineral fuels output is expected to expand by an average of 6.4 per cent over the next two years.

Economic Indicators
(percentage change)

	2006	2007	2008
Real GDP (basic prices)	3.7	2.7	3.3
Consumer Price Index	1.8	1.9	1.9
Personal disposable income	7.8	5.9	4.4
Employment	3.1	3.2	1.3
Unemployment rate (level)	4.8	4.1	3.9
Retail sales	6.2	5.9	5.1
Average weekly wages	3.2	3.4	3.0
Population	1.3	1.2	1.0

Sources: The Conference Board of Canada; Statistics Canada.

Goods Sector to Rebound
(percentage change; 1997 $)



f = forecast
Sources: The Conference Board of Canada; Statistics Canada.

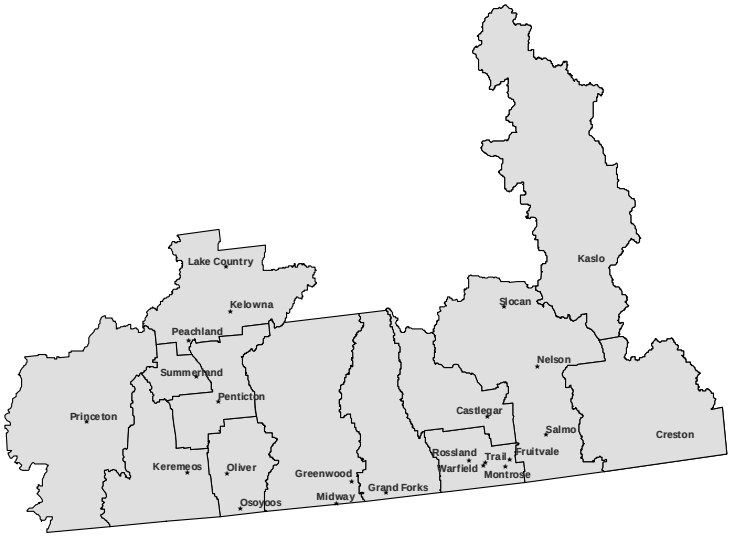
Key Economic Indicators: British Columbia
(forecast completed July 18, 2007)

	2006:1	2006:2	2006:3	2006:4	2007:1	2007:2	2007:3	2007:4	2008:1	2008:2	2008:3	2008:4	2006	2007	2008
GDP at market prices (current $)	178,227	180,909	181,834	183,482	186,416	188,859	192,269	195,068	196,838	198,295	200,512	202,805	181,113	190,653	199,613
	1.2	*1.5*	*0.5*	*0.9*	*1.6*	*1.3*	*1.8*	*1.5*	*0.9*	*0.7*	*1.1*	*1.1*	*6.7*	*5.3*	*4.7*
GDP at basic prices (current $)	163,322	165,765	167,280	169,019	171,602	173,867	177,063	179,797	181,420	182,414	184,402	186,460	166,347	175,582	183,674
	0.9	*1.5*	*0.9*	*1.0*	*1.5*	*1.3*	*1.8*	*1.5*	*0.9*	*0.5*	*1.1*	*1.1*	*6.8*	*5.6*	*4.6*
GDP at basic prices (constant $ 1997)	135,669	136,013	136,270	136,832	138,663	139,304	140,134	141,148	142,718	143,871	144,974	146,064	136,196	139,812	144,407
	1.6	*0.3*	*0.2*	*0.4*	*1.3*	*0.5*	*0.6*	*0.7*	*1.1*	*0.8*	*0.8*	*0.8*	*3.6*	*2.7*	*3.3*
Consumer Price Index (2002 = 1.0)	1.068	1.084	1.087	1.086	1.092	1.102	1.104	1.110	1.115	1.121	1.127	1.132	1.081	1.102	1.124
	–0.1	*1.5*	*0.3*	*–0.1*	*0.6*	*0.9*	*0.2*	*0.5*	*0.4*	*0.6*	*0.5*	*0.5*	*1.7*	*1.9*	*1.9*
Implicit price deflator— GDP at basic prices (1997 = 1.0)	1.204	1.219	1.228	1.235	1.238	1.248	1.264	1.274	1.271	1.268	1.272	1.277	1.221	1.256	1.272
	–0.7	*1.2*	*0.7*	*0.6*	*0.2*	*0.9*	*1.2*	*0.8*	*–0.2*	*–0.3*	*0.3*	*0.4*	*3.1*	*2.8*	*1.3*
Average weekly wages (level)	708.4	711.0	717.6	724.0	728.8	738.4	742.9	748.9	754.1	758.8	764.2	769.2	715.3	739.8	761.6
	0.5	*0.4*	*0.9*	*0.9*	*0.7*	*1.3*	*0.6*	*0.8*	*0.7*	*0.6*	*0.7*	*0.7*	*3.2*	*3.4*	*2.9*
Personal income (current $)	138,946	139,842	140,951	143,088	145,494	147,083	148,674	150,440	152,080	153,461	155,016	156,563	140,707	147,923	154,280
	3.8	*0.6*	*0.8*	*1.5*	*1.7*	*1.1*	*1.1*	*1.2*	*1.1*	*0.9*	*1.0*	*1.0*	*7.4*	*5.1*	*4.3*
Personal disposable income (current $)	107,812	108,741	109,537	111,328	113,463	115,234	116,483	117,839	119,181	120,198	121,392	122,581	109,354	115,755	120,838
	4.0	*0.9*	*0.7*	*1.6*	*1.9*	*1.6*	*1.1*	*1.2*	*1.1*	*0.9*	*1.0*	*1.0*	*7.8*	*5.9*	*4.4*
Personal savings rate	–4.13	–4.77	–5.61	–4.74	–4.56	–4.86	–5.04	–5.09	–5.11	–5.20	–5.28	–5.35	–4.81	–4.89	–5.23
Population of labour force age (000s)	3,488	3,503	3,519	3,534	3,548	3,562	3,573	3,585	3,598	3,610	3,623	3,635	3,511	3,567	3,616
	0.4	*0.4*	*0.4*	*0.4*	*0.4*	*0.4*	*0.3*	*0.3*	*0.4*	*0.3*	*0.3*	*0.3*	*1.8*	*1.6*	*1.4*
Labour force (000s)	2,285	2,295	2,309	2,331	2,352	2,360	2,366	2,371	2,379	2,384	2,392	2,400	2,305	2,363	2,389
	0.4	*0.5*	*0.6*	*0.9*	*0.9*	*0.3*	*0.3*	*0.2*	*0.3*	*0.2*	*0.3*	*0.3*	*1.9*	*2.5*	*1.1*
Employment (000s)	2,177	2,191	2,198	2,215	2,256	2,258	2,271	2,279	2,286	2,291	2,299	2,307	2,195	2,266	2,296
	0.7	*0.6*	*0.3*	*0.7*	*1.9*	*0.1*	*0.6*	*0.3*	*0.3*	*0.2*	*0.4*	*0.3*	*3.1*	*3.2*	*1.3*
Unemployment rate	4.7	4.5	4.8	5.0	4.1	4.4	4.0	3.9	3.9	3.9	3.9	3.9	4.8	4.1	3.9
Retail sales (current $)	52,037	53,275	53,900	53,386	54,907	55,893	56,705	57,553	58,498	59,183	59,961	60,713	53,149	56,264	59,589
	2.1	*2.4*	*1.2*	*–1.0*	*2.8*	*1.8*	*1.5*	*1.5*	*1.6*	*1.2*	*1.3*	*1.3*	*6.2*	*5.9*	*5.9*
Housing starts (units)	41,001	34,610	35,077	35,084	37,654	39,000	35,645	34,257	34,155	33,944	33,725	33,504	36,443	36,639	33,832
	11.2	*–15.6*	*1.3*	*0.0*	*7.3*	*3.6*	*–8.6*	*–3.9*	*–0.3*	*–0.6*	*–0.6*	*–0.7*	*5.1*	*0.5*	*–7.7*

White area represents forecast data.
All data are in millions of dollars, seasonally adjusted at annual rates, unless otherwise specified.
For each indicator, the first line is the level and the second line is the percentage change from the previous period.
Sources: The Conference Board of Canada; Statistics Canada; CMHC Housing Time Series Database.

FortisBC

Special Region 310



P.E.O.P.L.E.

POPULATION **E**XTRAPOLATION FOR **O**RGANIZATIONAL **P**LANNING WITH **L**ESS **E**RROR

British Columbia small area population projections result from the application of a "Component/Cohort-Survival" population model to area-specific assumptions dealing with fertility, mortality and migration. The Component/Cohort-Survival method requires separate forecasts of each of the components of population change, namely fertility, mortality and migration. With this information, and with a base year age-specific estimate of population, a projection for any subsequent year is made by promoting each age group in the preceding year to the next highest age group, while at the same time taking into account the effects of net migration, deaths and births. To view the most recent BC STATS forecasts please see our WEB page www.bcstats.gov.bc.ca/data/pop/pop/popproj.htm.

In general, all assumptions relating to migration, births and deaths by small area are based on past conditions, modified wherever possible to take into consideration possible future changes. Consequently, the resulting population projections are not necessarily what will be, but rather what could be, given the realization of these conditions. It is certainly possible that unforeseen changes in factors such as economic development, government policy, land use and zoning will affect future populations. Consequently, the projections should only be regarded as one possible scenario of the future size and age-sex structure of the population.

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P.E.O.P.L.E. Run 31, May 2006

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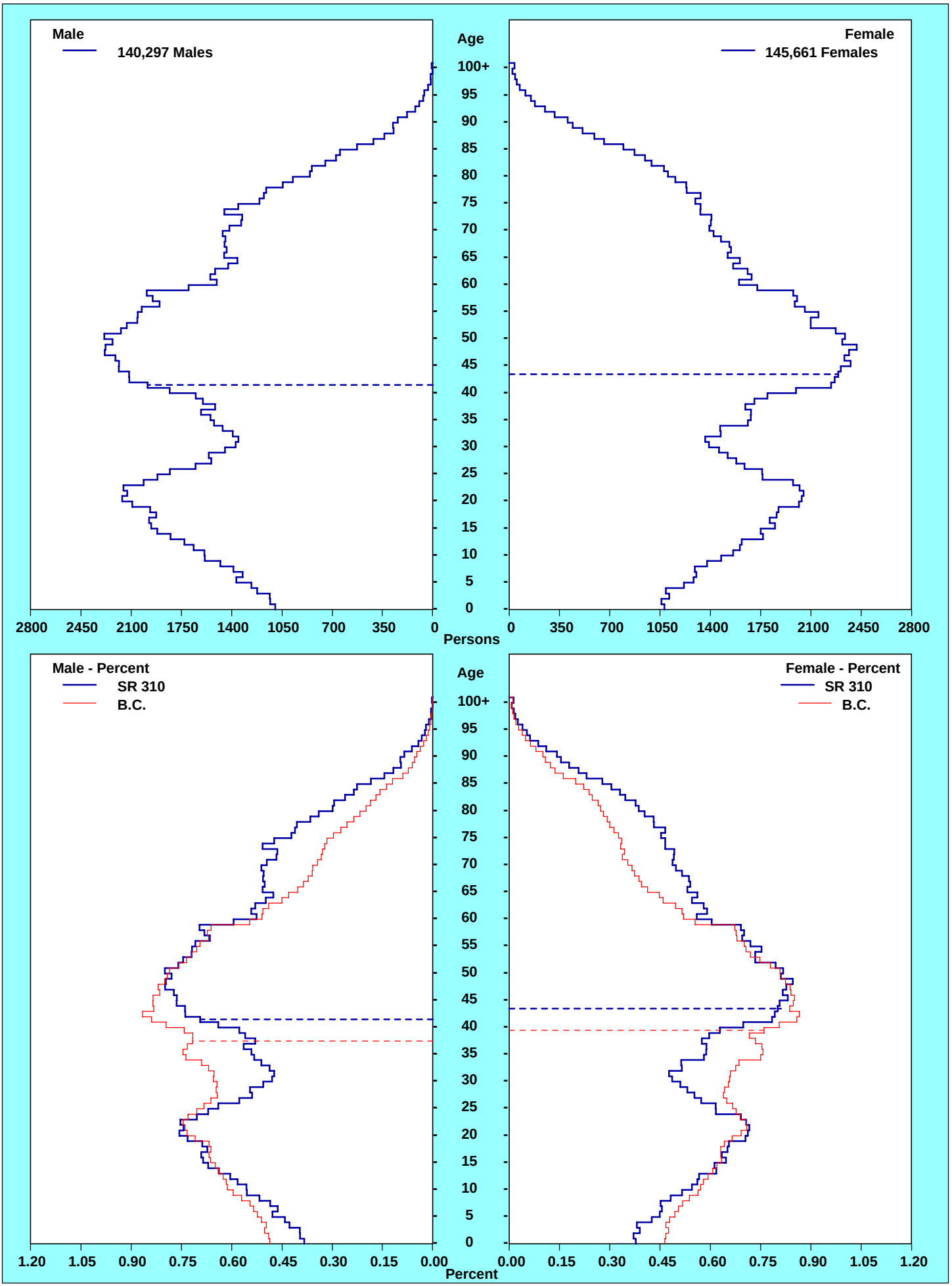
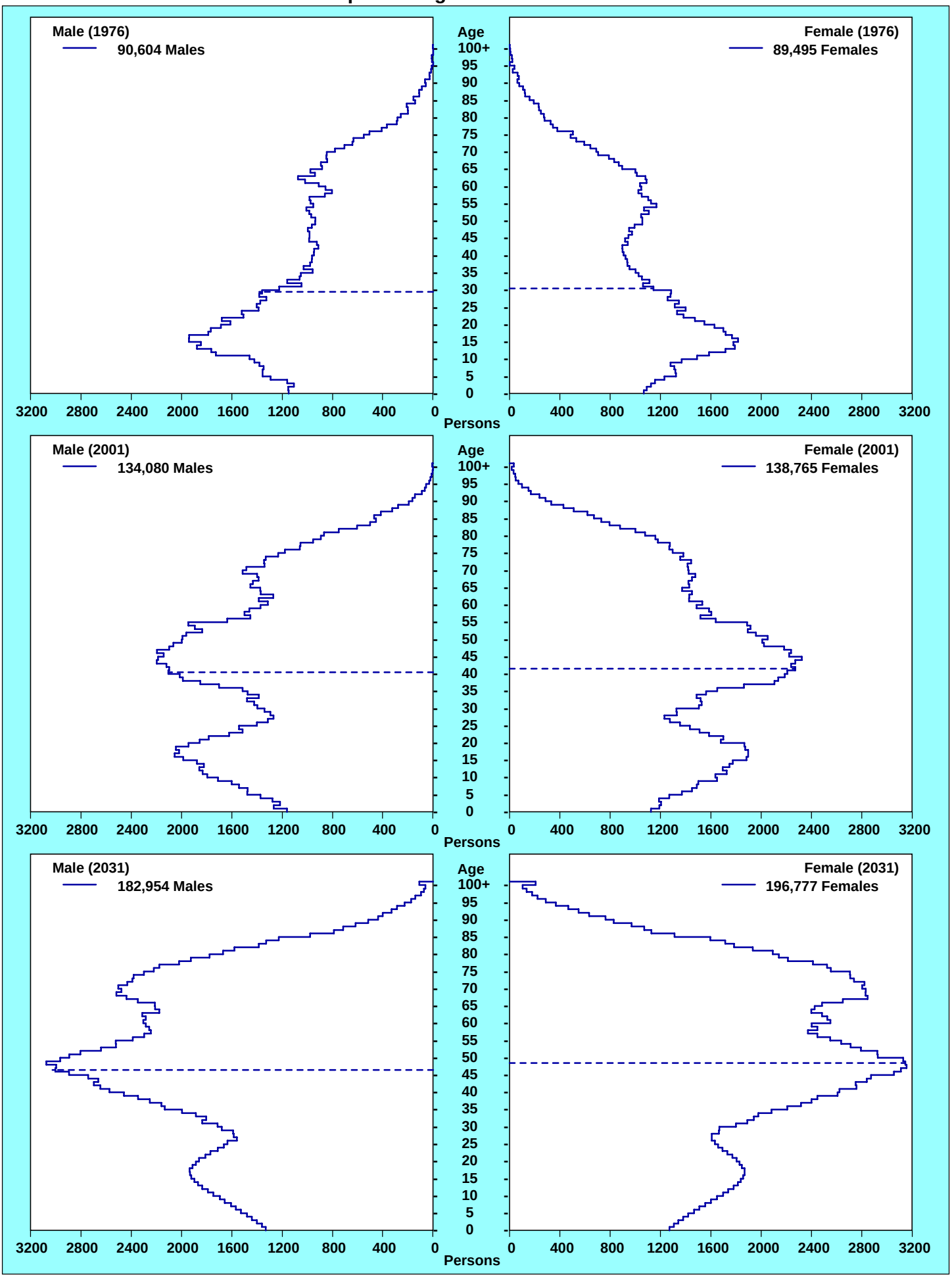
Population Age Distribution - 2005
Special Region 310: Fortis BC

BCUC Appendix A28.1B



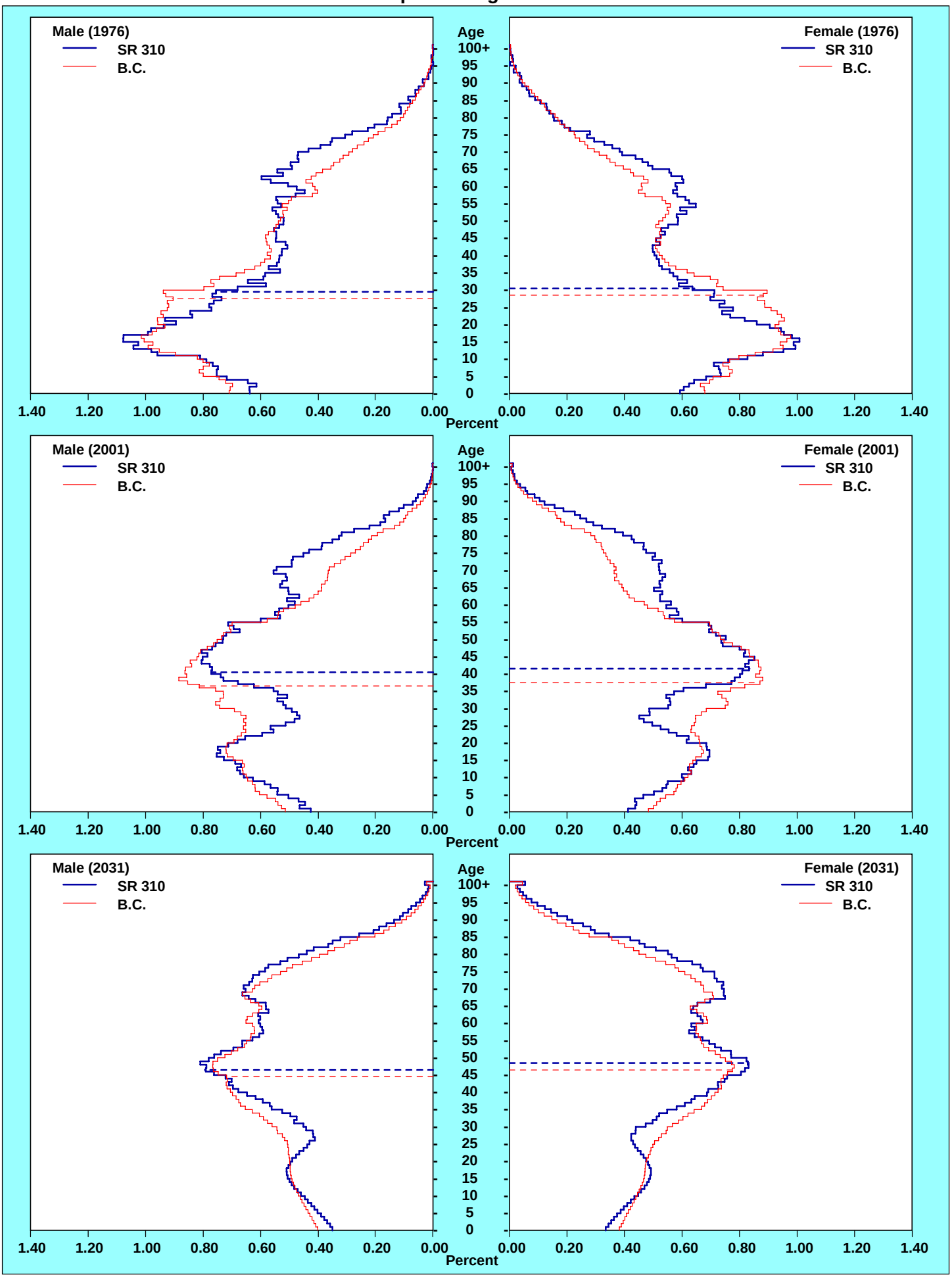
Source: BC STATS, P.E.O.P.L.E. Projection 31
Note: Line indicates median age

Population Age Distribution - 1976 2001 2031
Special Region 310: Fortis BC



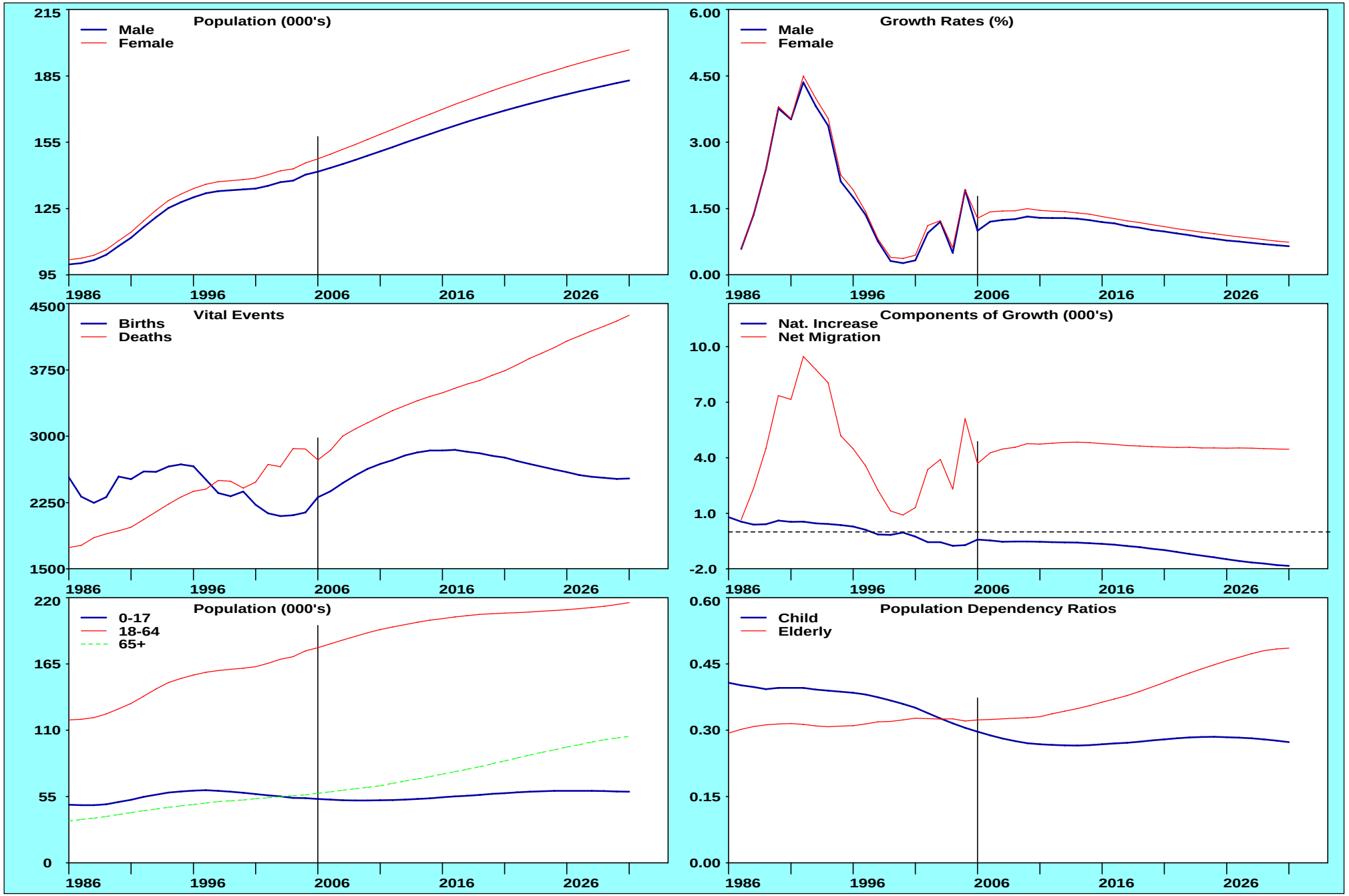
Source: BC STATS, P.E.O.P.L.E. Projection 31
Note: Line indicates median age

Population Age Distribution - 1976 2001 2031
B.C. and Special Region 310: Fortis BC



Source: BC STATS, P.E.O.P.L.E. Projection 31
Note: Line indicates median age

Summary Plots for Special Regions
Region 310: Fortis BC



Prepared by: BC Stats, Ministry of Labour and Citizens Services

Source: Estimates - BC STATS. Projections - PEOPLE 31
Historical Vital Event data - Vital Statistics, MH.

Note: Vertical line indicates first year of PEOPLE 31 projection

Summary Statistics for Special Regions
Region 310: Fortis BC

Year	Births	Deaths	Natural Increase	Net Mig	Year	Population	Pop Gr Rate	Density/ Sq.Km	Median Age	Sex Ratio	TFR	Crude Dth Rate	Median Age Dth	Child Dep.	Elderly Dep.	House-holds
1985-1986	2,535	1,741	794	N/A	1986	201,596	N/A	5.2	36.6	97.9	N/A	N/A	75.9	0.407	0.293	80,562
1986-1987	2,316	1,765	551	649	1987	202,796	0.6	5.2	37.2	97.9	1,662	8.7	76.1	0.402	0.302	80,996
1987-1988	2,247	1,854	393	2,352	1988	205,541	1.4	5.3	37.7	97.9	1,628	9.1	76.4	0.398	0.308	82,029
1988-1989	2,311	1,896	415	4,507	1989	210,463	2.4	5.4	38.0	97.9	1,670	9.1	76.4	0.393	0.312	83,920
1989-1990	2,543	1,930	613	7,356	1990	218,432	3.8	5.6	38.2	97.8	1,812	9.0	77.4	0.396	0.314	87,006
1990-1991	2,514	1,970	544	7,157	1991	226,133	3.5	5.8	38.4	97.8	1,764	8.9	76.9	0.396	0.315	89,959
1991-1992	2,603	2,058	545	9,468	1992	236,146	4.4	6.0	38.5	97.7	1,774	8.9	77.2	0.396	0.313	94,381
1992-1993	2,597	2,144	453	8,773	1993	245,372	3.9	6.3	38.7	97.5	1,714	8.9	77.9	0.392	0.310	98,552
1993-1994	2,658	2,233	425	8,051	1994	253,848	3.5	6.5	38.9	97.3	1,699	8.9	77.4	0.390	0.308	102,447
1994-1995	2,682	2,312	370	5,188	1995	259,406	2.2	6.6	39.3	97.2	1,713	9.0	78.2	0.387	0.310	105,152
1995-1996	2,660	2,376	284	4,485	1996	264,175	1.8	6.8	39.5	97.0	1,687	9.1	78.5	0.385	0.310	107,534
1996-1997	2,511	2,401	110	3,571	1997	267,856	1.4	6.9	40.0	97.0	1,582	9.0	78.8	0.381	0.314	109,829
1997-1998	2,358	2,500	-142	2,247	1998	269,961	0.8	6.9	40.5	96.9	1,490	9.3	78.6	0.374	0.319	110,912
1998-1999	2,321	2,491	-170	1,132	1999	270,923	0.4	6.9	41.0	96.8	1,483	9.2	79.2	0.368	0.320	111,948
1999-2000	2,374	2,414	-40	905	2000	271,788	0.3	7.0	41.5	96.7	1,532	8.9	79.4	0.360	0.323	113,171
2000-2001	2,225	2,481	-256	1,313	2001	272,845	0.4	7.0	42.0	96.6	1,442	9.1	79.8	0.351	0.327	115,120
2001-2002	2,128	2,682	-554	3,370	2002	275,661	1.0	7.1	42.4	96.5	1,378	9.8	79.9	0.339	0.326	116,403
2002-2003	2,098	2,654	-556	3,908	2003	279,013	1.2	7.1	42.7	96.4	1,334	9.6	80.0	0.327	0.325	119,562
2003-2004	2,106	2,861	-755	2,308	2004	280,566	0.6	7.2	43.2	96.3	1,327	10.2	80.3	0.315	0.326	122,234
2004-2005	2,139	2,855	-716	6,108	2005	285,958	1.9	7.3	43.4	96.3	1,309	10.1	80.7	0.305	0.321	126,527
2005-2006	2,310	2,732	-422	3,690	2006	289,226	1.1	7.4	43.8	96.1	1,377	9.5	81.2	0.297	0.323	130,134
2006-2007	2,378	2,842	-464	4,272	2007	293,034	1.3	7.5	44.2	95.8	1,387	9.8	81.6	0.288	0.324	133,290
2007-2008	2,472	3,003	-531	4,477	2008	296,980	1.3	7.6	44.5	95.6	1,401	10.2	82.1	0.281	0.326	136,311
2008-2009	2,555	3,083	-528	4,561	2009	301,013	1.4	7.7	44.7	95.5	1,400	10.3	82.6	0.275	0.327	139,351
2009-2010	2,631	3,152	-521	4,763	2010	305,255	1.4	7.8	44.9	95.3	1,399	10.4	82.6	0.271	0.328	142,382
2010-2011	2,686	3,223	-537	4,741	2011	309,459	1.4	7.9	45.0	95.1	1,389	10.5	82.8	0.268	0.331	145,279
2011-2012	2,731	3,291	-560	4,783	2012	313,682	1.4	8.0	45.1	95.0	1,378	10.6	83.1	0.267	0.337	148,093
2012-2013	2,783	3,347	-564	4,834	2013	317,952	1.4	8.1	45.1	94.9	1,372	10.6	83.0	0.266	0.343	150,713
2013-2014	2,817	3,401	-584	4,838	2014	322,206	1.3	8.3	45.2	94.7	1,361	10.6	83.3	0.266	0.349	153,205
2014-2015	2,838	3,449	-611	4,825	2015	326,420	1.3	8.4	45.3	94.6	1,349	10.6	83.2	0.266	0.355	155,612
2015-2016	2,838	3,492	-654	4,759	2016	330,525	1.3	8.5	45.4	94.5	1,332	10.6	83.4	0.268	0.363	157,838
2016-2017	2,845	3,541	-696	4,723	2017	334,552	1.2	8.6	45.5	94.4	1,329	10.6	83.5	0.270	0.371	159,964
2017-2018	2,823	3,590	-767	4,661	2018	338,446	1.2	8.7	45.5	94.3	1,322	10.7	83.4	0.272	0.378	161,765
2018-2019	2,807	3,632	-825	4,639	2019	342,260	1.1	8.8	45.6	94.2	1,322	10.7	83.5	0.274	0.388	163,651
2019-2020	2,779	3,690	-911	4,596	2020	345,945	1.1	8.9	45.7	94.1	1,322	10.7	83.5	0.277	0.398	165,521
2020-2021	2,758	3,741	-983	4,575	2021	349,537	1.0	9.0	45.8	94.0	1,325	10.8	83.5	0.279	0.408	167,303
2021-2022	2,721	3,807	-1,086	4,554	2022	353,005	1.0	9.0	46.0	93.9	1,325	10.8	83.3	0.282	0.419	168,943
2022-2023	2,687	3,879	-1,192	4,562	2023	356,375	1.0	9.1	46.2	93.8	1,329	10.9	83.5	0.284	0.429	170,542
2023-2024	2,655	3,940	-1,285	4,531	2024	359,621	0.9	9.2	46.4	93.6	1,334	11.0	83.2	0.284	0.439	172,130
2024-2025	2,623	4,003	-1,380	4,533	2025	362,774	0.9	9.3	46.6	93.5	1,338	11.1	83.1	0.285	0.448	173,676
2025-2026	2,595	4,077	-1,482	4,524	2026	365,816	0.8	9.4	46.8	93.4	1,343	11.2	83.2	0.284	0.457	175,485
2026-2027	2,560	4,135	-1,575	4,530	2027	368,771	0.8	9.4	47.1	93.3	1,343	11.3	83.0	0.283	0.465	177,253
2027-2028	2,542	4,191	-1,649	4,520	2028	371,642	0.8	9.5	47.4	93.2	1,347	11.3	83.0	0.282	0.473	179,207
2028-2029	2,530	4,244	-1,714	4,493	2029	374,421	0.7	9.6	47.7	93.1	1,352	11.4	82.9	0.280	0.480	181,201
2029-2030	2,517	4,304	-1,787	4,477	2030	377,111	0.7	9.7	48.0	93.1	1,358	11.5	83.3	0.277	0.484	183,269
2030-2031	2,523	4,367	-1,844	4,464	2031	379,731	0.7	9.7	48.3	93.0	1,364	11.5	83.5	0.273	0.486	185,363

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Using P.E.O.P.L.E. Projection Model, Projection 31

Date run: May 4, 2006.
Prepared for: Ministry of Labour and Citizens Services
Enquiries: Population Section, BC STATS
Ministry of Labour and Citizens Services, (250) 387-0327

Note: All figures as of July 1.
Child Dep. = Pop(0-17) / Pop(18-64)
Elderly Dep. = Pop(65+) / Pop(18-64)
Households = Census Definition Households
Crude Dth Rate = Census year death estimates per 1000 population
Sex Ratio = Males per 100 females
TFR = Lifetime births per 1000 women (15-49), calculated on census year estimates

Figures for the period 2006-2031 are projected.
Due to rounding, the sum of the components of change may not equal the total population change.

Population Projections for Special Regions
Region 310: Fortis BC, 1986 - 2031

Year	0-17	0-4	5-12	5-17	13-17	18-24	15+	19+	25-44	45-64	65+	80+	Total
1986	48,298	12,916	20,563	35,382	14,819	18,682	162,546	150,556	55,633	44,228	34,760	6,321	201,596
1987	47,817	12,752	20,985	35,065	14,080	18,247	163,757	152,133	56,372	44,404	35,955	6,648	202,796
1988	47,916	12,843	21,288	35,073	13,785	17,690	166,128	154,883	57,623	45,180	37,134	7,017	205,541
1989	48,512	12,864	22,023	35,648	13,625	17,453	170,179	159,031	59,726	46,267	38,511	7,459	210,463
1990	50,584	13,356	23,192	37,228	14,036	17,518	176,319	165,015	62,556	47,655	40,120	7,903	218,432
1991	52,290	13,697	24,251	38,593	14,342	17,829	182,429	170,854	64,995	49,344	41,680	8,444	226,133
1992	54,716	14,581	25,391	40,135	14,744	18,813	190,198	178,515	67,528	51,829	43,267	8,795	236,146
1993	56,530	14,820	26,396	41,710	15,314	19,599	197,875	185,866	69,983	54,599	44,664	9,404	245,372
1994	58,249	14,913	27,228	43,336	16,108	19,999	205,059	192,529	72,255	57,283	46,068	10,083	253,848
1995	59,174	14,723	27,634	44,451	16,817	20,132	210,015	196,972	73,493	59,280	47,331	10,763	259,406
1996	59,933	14,511	27,797	45,422	17,625	20,508	214,520	200,934	74,281	61,067	48,391	11,229	264,175
1997	60,207	14,099	27,905	46,108	18,203	20,933	218,360	204,205	74,301	62,772	49,653	11,602	267,856
1998	59,684	13,528	27,386	46,156	18,770	21,452	221,429	206,729	73,411	64,573	50,849	11,941	269,961
1999	58,997	13,018	26,817	45,979	19,162	22,218	223,408	208,364	71,972	66,345	51,392	12,334	270,923
2000	58,077	12,630	26,281	45,447	19,166	23,102	225,412	209,925	70,337	68,088	52,190	12,997	271,788
2001	57,053	12,277	25,815	44,776	18,961	23,957	227,530	211,874	68,942	69,699	53,194	13,725	272,845
2002	56,056	11,926	25,273	44,130	18,857	25,285	231,226	215,635	68,197	72,089	54,034	14,399	275,661
2003	55,187	11,767	24,638	43,420	18,782	26,591	235,245	219,776	67,861	74,448	54,926	15,029	279,013
2004	53,919	11,514	23,901	42,405	18,504	27,366	237,840	222,663	67,139	76,453	55,689	15,637	280,566
2005	53,711	11,415	23,649	42,296	18,647	28,169	243,633	228,405	68,223	79,449	56,406	16,098	285,958
2006	53,000	11,517	23,166	41,483	18,317	28,185	247,532	232,440	68,726	81,627	57,688	16,863	289,226
2007	52,407	11,795	22,639	40,612	17,973	27,975	251,817	236,832	69,834	83,905	58,913	17,599	293,034
2008	51,970	12,206	22,231	39,764	17,533	27,629	255,854	241,169	71,239	85,949	60,193	18,228	296,980
2009	51,740	12,690	21,872	39,050	17,178	27,145	259,858	245,555	72,774	87,887	61,467	18,844	301,013
2010	51,714	13,219	21,745	38,495	16,750	26,671	263,865	249,849	74,653	89,592	62,625	19,383	305,255
2011	51,908	13,640	21,906	38,268	16,362	26,053	267,751	254,048	76,797	90,709	63,992	19,945	309,459
2012	52,161	14,021	22,124	38,140	16,016	25,712	271,487	258,039	78,695	91,179	65,935	20,530	313,682
2013	52,520	14,339	22,365	38,181	15,816	25,333	275,099	262,020	80,638	91,641	67,820	20,973	317,952
2014	53,001	14,625	22,827	38,376	15,549	24,900	278,620	265,821	82,252	92,442	69,611	21,335	322,206
2015	53,608	14,844	23,435	38,764	15,329	24,298	282,198	269,573	83,968	92,999	71,547	21,678	326,420
2016	54,381	15,020	24,111	39,361	15,250	23,705	285,522	273,021	85,507	93,351	73,581	22,063	330,525
2017	55,079	15,120	24,795	39,959	15,164	23,161	288,745	276,346	87,048	93,675	75,589	22,444	334,552
2018	55,736	15,159	25,502	40,577	15,075	22,878	291,814	279,495	88,433	93,790	77,609	22,871	338,446
2019	56,419	15,130	26,040	41,289	15,249	22,514	294,892	282,733	89,734	93,759	79,834	23,255	342,260
2020	57,169	15,056	26,511	42,113	15,602	22,149	297,915	285,734	90,755	93,676	82,196	23,598	345,945
2021	57,852	14,957	26,869	42,895	16,026	21,810	301,068	288,646	91,523	93,834	84,518	23,975	349,537
2022	58,475	14,821	27,139	43,654	16,515	21,630	304,216	291,467	91,890	94,067	86,943	24,320	353,005
2023	59,018	14,682	27,304	44,336	17,032	21,601	307,400	294,246	92,040	94,397	89,319	24,810	356,375
2024	59,364	14,525	27,393	44,839	17,446	21,781	310,573	296,975	91,856	95,033	91,587	25,329	359,621
2025	59,643	14,395	27,427	45,248	17,821	21,950	313,710	299,763	91,547	95,813	93,821	25,758	362,774
2026	59,739	14,246	27,365	45,493	18,128	22,295	316,878	302,619	90,927	96,830	96,025	26,396	365,816
2027	59,781	14,129	27,255	45,652	18,397	22,799	319,979	305,439	89,998	98,110	98,083	27,429	368,771
2028	59,672	14,000	27,077	45,672	18,595	23,352	323,109	308,352	88,815	99,637	100,166	28,455	371,642
2029	59,494	13,901	26,872	45,593	18,721	23,917	326,180	311,240	87,673	101,245	102,092	29,357	374,421
2030	59,249	13,803	26,656	45,446	18,790	24,493	329,201	314,140	86,534	103,164	103,671	30,408	377,111
2031	58,976	13,737	26,431	45,239	18,808	24,950	332,143	316,995	85,654	105,255	104,896	31,513	379,731

Prepared by: Population Section, BC STATS
Ministry of Labour and Citizens Services
Government of the Province of British Columbia
Using P.E.O.P.L.E. Projection Model, Projection 31

Date run: May 4, 2006.
Prepared for: Ministry of Labour and Citizens Services
Enquiries: Population Section, BC STATS
Ministry of Labour and Citizens Services, (250) 387-0327

Note: All figures as of July 1. Figures for the period 2006-2031 are projected

Population Projections for Special Regions
Region 310: Fortis BC, 1986 - 2031

Year	Sex	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+	Total
1986	Male	1,287	5,392	6,655	6,787	7,654	6,791	6,942	7,298	7,389	5,955	5,261	5,056	5,488	5,625	5,350	4,840	3,172	1,798	697	287	99,715
	Female	1,225	5,012	6,201	6,494	6,968	6,512	7,029	7,687	7,352	5,984	5,280	5,145	5,875	6,502	6,308	5,288	3,483	2,017	980	544	101,881
	Total	2,511	10,405	12,856	13,283	14,621	13,304	13,967	14,982	14,744	11,940	10,537	10,203	11,361	12,127	11,660	10,127	6,652	3,817	1,679	825	201,596
1987	Male	1,196	5,372	6,768	6,761	7,376	6,552	6,924	7,322	7,345	6,379	5,341	5,100	5,560	5,664	5,543	4,837	3,314	1,879	775	288	100,298
	Female	1,139	5,044	6,345	6,413	6,835	6,267	6,913	7,701	7,442	6,345	5,406	5,166	5,753	6,409	6,508	5,458	3,647	2,184	1,009	510	102,498
	Total	2,335	10,417	13,112	13,174	14,208	12,818	13,837	15,023	14,787	12,725	10,751	10,270	11,311	12,072	12,052	10,295	6,960	4,061	1,784	803	202,796
1988	Male	1,184	5,394	6,951	6,779	7,146	6,336	6,863	7,475	7,540	6,763	5,523	5,225	5,581	5,788	5,784	4,782	3,484	1,947	839	286	101,660
	Female	1,117	5,147	6,437	6,410	6,765	5,950	6,918	7,826	7,610	6,632	5,655	5,207	5,769	6,438	6,659	5,534	3,876	2,297	1,095	555	103,881
	Total	2,302	10,541	13,384	13,188	13,906	12,285	13,780	15,299	15,149	13,395	11,179	10,431	11,349	12,221	12,445	10,314	7,358	4,242	1,932	843	205,541
1989	Male	1,209	5,388	7,228	6,930	7,079	6,146	6,980	7,719	7,836	7,161	5,827	5,381	5,598	5,955	5,981	4,792	3,627	2,082	899	286	104,094
	Female	1,149	5,118	6,725	6,547	6,689	5,760	7,105	7,961	7,934	7,034	5,910	5,365	5,742	6,489	6,837	5,636	4,180	2,400	1,254	543	106,369
	Total	2,359	10,505	13,951	13,475	13,768	11,907	14,085	15,679	15,769	14,193	11,739	10,745	11,339	12,444	12,819	10,427	7,806	4,481	2,150	828	210,463
1990	Male	1,356	5,491	7,617	7,176	7,285	6,157	7,022	8,038	8,205	7,782	6,054	5,524	5,749	6,142	6,191	4,961	3,834	2,161	942	328	108,013
	Female	1,245	5,265	7,185	6,781	6,887	5,657	7,210	8,260	8,355	7,692	6,154	5,621	5,795	6,619	6,960	5,817	4,454	2,559	1,314	599	110,419
	Total	2,600	10,756	14,803	13,955	14,172	11,816	14,230	16,296	16,562	15,468	12,208	11,146	11,542	12,759	13,150	10,778	8,289	4,722	2,255	926	218,432
1991	Male	1,362	5,654	7,912	7,502	7,389	6,270	6,846	8,433	8,689	8,292	6,474	5,633	5,822	6,445	6,290	5,116	4,065	2,220	1,031	376	111,811
	Female	1,284	5,395	7,501	7,103	6,987	5,769	7,032	8,649	8,774	8,285	6,466	5,880	5,922	6,704	7,021	6,081	4,665	2,753	1,371	694	114,322
	Total	2,646	11,051	15,412	14,600	14,373	12,037	13,879	17,079	17,463	16,574	12,938	11,515	11,744	13,147	13,312	11,197	8,727	4,974	2,400	1,070	226,133
1992	Male	1,435	6,050	8,163	7,932	7,527	6,711	6,828	8,761	9,136	8,694	7,190	5,902	5,960	6,600	6,490	5,409	4,093	2,339	1,062	397	116,678
	Female	1,341	5,754	7,758	7,523	7,031	6,305	7,026	8,971	9,416	8,699	7,119	6,234	6,125	6,697	7,239	6,400	4,843	2,870	1,430	693	119,468
	Total	2,775	11,806	15,921	15,453	14,558	13,016	13,856	17,731	18,551	17,390	14,309	12,138	12,085	13,297	13,731	11,809	8,932	5,210	2,495	1,090	236,146
1993	Male	1,344	6,224	8,359	8,436	7,682	7,085	6,940	8,932	9,633	9,130	7,832	6,254	6,214	6,683	6,635	5,704	4,052	2,486	1,085	435	121,133
	Female	1,350	5,904	8,033	7,857	7,135	6,728	6,981	9,274	9,970	9,123	7,738	6,663	6,349	6,870	7,222	6,613	5,036	3,114	1,522	767	124,239
	Total	2,694	12,126	16,392	16,288	14,815	13,814	13,922	18,205	19,607	18,249	15,569	12,913	12,560	13,557	13,857	12,316	9,087	5,598	2,609	1,197	245,372
1994	Male	1,391	6,222	8,526	8,853	7,998	7,210	7,035	9,110	10,023	9,608	8,385	6,679	6,439	6,780	6,750	5,940	4,051	2,623	1,159	439	125,217
	Female	1,337	5,964	8,164	8,337	7,423	6,826	6,978	9,557	10,329	9,617	8,338	7,107	6,649	6,898	7,304	6,832	5,106	3,434	1,582	850	128,632
	Total	2,728	12,185	16,692	17,190	15,419	14,034	14,013	18,668	20,351	19,223	16,726	13,787	13,089	13,681	14,054	12,773	9,158	6,056	2,741	1,286	253,848
1995	Male	1,371	6,115	8,594	9,160	8,275	7,156	7,157	9,062	10,229	9,973	8,977	6,855	6,569	6,842	6,899	5,978	4,163	2,790	1,238	464	127,862
	Female	1,346	5,891	8,244	8,673	7,742	6,736	6,963	9,500	10,587	10,021	8,934	7,358	6,850	6,895	7,307	6,939	5,281	3,670	1,704	900	131,543
	Total	2,718	12,005	16,839	17,833	16,018	13,893	14,118	18,561	20,821	19,993	17,910	14,214	13,419	13,737	14,207	12,917	9,444	6,457	2,944	1,362	259,406
1996	Male	1,411	5,960	8,598	9,388	8,723	7,189	7,240	8,786	10,423	10,291	9,435	7,214	6,579	6,881	7,007	6,036	4,323	2,859	1,290	477	130,104
	Female	1,317	5,823	8,200	8,962	8,101	6,766	7,126	9,292	10,797	10,328	9,398	7,570	7,053	6,944	7,301	6,985	5,511	3,852	1,867	884	134,071
	Total	2,727	11,784	16,800	18,349	16,824	13,957	14,367	18,075	21,219	20,620	18,828	14,786	13,629	13,824	14,305	13,022	9,835	6,711	3,159	1,359	264,175
1997	Male	1,315	5,873	8,634	9,511	8,921	7,357	7,204	8,435	10,435	10,635	9,601	7,882	6,638	6,817	7,223	6,117	4,573	2,910	1,291	501	131,869
	Female	1,227	5,688	8,240	9,020	8,436	6,919	7,087	8,893	10,845	10,761	9,628	8,060	7,198	6,950	7,338	7,009	5,793	3,973	2,003	928	135,987
	Total	2,541	11,558	16,876	18,531	17,357	14,277	14,294	17,327	21,282	21,398	19,227	15,944	13,834	13,767	14,561	13,125	10,365	6,883	3,294	1,425	267,856
1998	Male	1,230	5,733	8,563	9,483	9,329	7,475	7,099	7,890	10,247	10,826	9,896	8,384	6,770	6,842	7,242	6,283	4,796	2,902	1,366	525	132,869
	Female	1,139	5,430	8,026	8,940	8,731	7,060	7,041	8,379	10,834	11,097	9,839	8,456	7,381	7,010	7,503	7,071	6,020	4,096	2,107	950	137,093
	Total	2,367	11,161	16,590	18,422	18,058	14,538	14,140	16,267	21,082	21,922	19,734	16,839	14,147	13,853	14,740	13,353	10,815	6,993	3,472	1,476	269,961
1999	Male	1,196	5,519	8,355	9,443	9,613	7,692	6,846	7,543	10,016	10,872	10,158	8,746	6,996	6,802	7,182	6,410	4,993	2,935	1,430	548	133,289
	Female	1,155	5,150	7,864	8,835	8,978	7,418	6,843	7,881	10,752	11,216	10,201	8,813	7,594	7,035	7,306	7,012	6,157	4,166	2,254	1,009	137,633
	Total	2,351	10,667	16,220	18,278	18,592	15,107	13,693	15,423	20,771	22,085	20,358	17,561	14,589	13,837	14,486	13,422	11,150	7,098	3,683	1,553	270,923
2000	Male	1,246	5,287	8,049	9,296	9,868	8,012	6,688	7,276	9,624	10,763	10,371	9,276	7,076	6,814	7,204	6,551	5,054	3,027	1,570	588	133,641
	Female	1,155	4,944	7,660	8,745	9,182	7,731	6,620	7,636	10,421	11,307	10,488	9,287	7,697	7,076	7,221	7,004	6,165	4,299	2,425	1,090	138,148
	Total	2,399	10,231	15,709	18,043	19,051	15,746	13,312	14,913	20,044	22,068	20,862	18,563	14,774	13,889	14,422	13,553	11,218	7,325	3,998	1,674	271,788

Population Projections for Special Regions
Region 310: Fortis BC, 1986 - 2031

Year	Sex	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+	Total
2001	Male	1,162	5,137	7,812	9,190	10,053	8,321	6,620	7,164	9,075	10,711	10,499	9,633	7,426	6,720	7,192	6,735	5,145	3,183	1,688	614	134,080
	Female	1,124	4,854	7,458	8,578	9,414	7,907	6,517	7,602	9,942	11,311	10,672	9,708	7,833	7,208	7,201	7,017	6,179	4,481	2,563	1,196	138,765
	Total	2,286	9,991	15,270	17,768	19,467	16,228	13,137	14,766	19,017	22,022	21,171	19,341	15,259	13,928	14,393	13,752	11,324	7,664	4,251	1,810	272,845
2002	Male	1,139	4,991	7,573	9,157	10,149	8,796	6,853	7,130	8,639	10,600	10,771	9,741	8,054	6,765	7,100	6,890	5,247	3,367	1,724	661	135,347
	Female	1,013	4,783	7,191	8,588	9,490	8,471	6,734	7,518	9,452	11,271	11,079	9,936	8,342	7,401	7,210	6,960	6,228	4,669	2,696	1,282	140,314
	Total	2,152	9,774	14,764	17,745	19,639	17,267	13,587	14,648	18,091	21,871	21,850	19,677	16,396	14,166	14,310	13,850	11,475	8,036	4,420	1,943	275,661
2003	Male	1,079	4,952	7,398	9,111	10,053	9,474	7,116	7,192	8,204	10,533	11,014	9,986	8,528	6,902	7,150	6,872	5,398	3,559	1,731	722	136,974
	Female	1,057	4,679	7,005	8,487	9,501	8,982	7,006	7,538	8,979	11,293	11,450	10,152	8,780	7,636	7,272	6,972	6,233	4,816	2,800	1,401	142,039
	Total	2,136	9,631	14,403	17,598	19,554	18,456	14,122	14,730	17,183	21,826	22,464	20,138	17,308	14,538	14,422	13,844	11,631	8,375	4,531	2,123	279,013
2004	Male	1,090	4,832	7,155	8,877	9,934	9,896	7,408	7,001	7,920	10,342	11,083	10,283	8,891	7,138	7,191	6,840	5,478	3,721	1,786	788	137,654
	Female	1,024	4,568	6,805	8,375	9,355	9,374	7,369	7,352	8,514	11,233	11,552	10,497	9,133	7,876	7,381	6,915	6,247	4,953	2,894	1,495	142,912
	Total	2,114	9,400	13,960	17,252	19,289	19,270	14,777	14,353	16,434	21,575	22,635	20,780	18,024	15,014	14,572	13,755	11,725	8,674	4,680	2,283	280,566
2005	Male	1,098	4,755	7,149	8,730	9,923	10,374	8,032	7,106	7,930	10,231	11,187	10,703	9,571	7,356	7,246	6,886	5,563	3,771	1,835	851	140,297
	Female	1,081	4,481	6,732	8,299	9,414	9,844	7,960	7,355	8,510	11,099	11,811	10,960	9,751	8,110	7,493	6,869	6,251	4,992	3,002	1,647	145,661
	Total	2,179	9,236	13,881	17,029	19,337	20,218	15,992	14,461	16,440	21,330	22,998	21,663	19,322	15,466	14,739	13,755	11,814	8,763	4,837	2,498	285,958
2006	Male	1,199	4,709	6,947	8,499	9,749	10,445	8,508	7,204	8,026	9,865	11,277	10,940	9,967	7,723	7,143	6,909	5,796	3,866	1,986	944	141,702
	Female	1,143	4,466	6,600	8,131	9,180	10,117	8,388	7,395	8,597	10,743	11,908	11,215	10,278	8,319	7,719	6,917	6,341	5,091	3,179	1,797	147,524
	Total	2,342	9,175	13,547	16,630	18,929	20,562	16,896	14,599	16,623	20,608	23,185	22,155	20,245	16,042	14,862	13,826	12,137	8,957	5,165	2,741	289,226
2007	Male	1,236	4,770	6,825	8,271	9,653	10,374	9,031	7,485	8,115	9,518	11,268	11,254	10,097	8,338	7,161	6,839	6,053	4,009	2,113	996	143,406
	Female	1,179	4,610	6,455	7,871	9,115	10,023	9,000	7,718	8,625	10,342	11,918	11,657	10,530	8,843	7,858	7,044	6,359	5,189	3,347	1,945	149,628
	Total	2,415	9,380	13,280	16,142	18,768	20,397	18,031	15,203	16,740	19,860	23,186	22,911	20,627	17,181	15,019	13,883	12,412	9,198	5,460	2,941	293,034
2008	Male	1,292	4,937	6,727	8,065	9,534	10,130	9,692	7,822	8,232	9,139	11,246	11,506	10,347	8,814	7,265	6,925	6,091	4,168	2,224	1,032	145,188
	Female	1,229	4,748	6,445	7,683	8,949	9,860	9,558	8,094	8,756	9,946	11,970	12,031	10,733	9,302	8,048	7,173	6,463	5,260	3,464	2,080	151,792
	Total	2,521	9,685	13,172	15,748	18,483	19,990	19,250	15,916	16,988	19,085	23,216	23,537	21,080	18,116	15,313	14,098	12,554	9,428	5,688	3,112	296,980
2009	Male	1,333	5,135	6,701	7,864	9,312	9,968	10,194	8,297	8,208	9,003	11,179	11,663	10,694	9,220	7,427	7,002	6,127	4,278	2,324	1,092	147,021
	Female	1,269	4,953	6,372	7,528	8,828	9,622	10,071	8,625	8,746	9,630	12,042	12,216	11,154	9,719	8,269	7,321	6,477	5,366	3,581	2,203	153,992
	Total	2,602	10,088	13,073	15,392	18,140	19,590	20,265	16,922	16,954	18,633	23,221	23,879	21,848	18,939	15,696	14,323	12,604	9,644	5,905	3,295	301,013
2010	Male	1,373	5,379	6,603	7,798	9,079	9,791	10,502	8,917	8,275	8,964	11,001	11,712	11,025	9,791	7,531	7,044	6,224	4,406	2,367	1,178	148,960
	Female	1,310	5,157	6,352	7,418	8,664	9,461	10,393	9,235	8,781	9,586	11,833	12,393	11,547	10,290	8,436	7,483	6,524	5,440	3,643	2,349	156,295
	Total	2,683	10,536	12,955	15,216	17,743	19,252	20,895	18,152	17,056	18,550	22,834	24,105	22,572	20,081	15,967	14,527	12,748	9,846	6,010	3,527	305,255
2011	Male	1,404	5,565	6,688	7,631	8,875	9,635	10,677	9,530	8,437	9,083	10,657	11,820	11,290	10,209	7,911	6,970	6,237	4,571	2,419	1,275	150,884
	Female	1,337	5,334	6,426	7,323	8,515	9,228	10,689	9,761	8,886	9,734	11,521	12,538	11,831	10,843	8,658	7,704	6,567	5,510	3,695	2,475	158,575
	Total	2,741	10,899	13,114	14,954	17,390	18,863	21,366	19,291	17,323	18,817	22,178	24,358	23,121	21,052	16,569	14,674	12,804	10,081	6,114	3,750	309,459
2012	Male	1,428	5,737	6,806	7,538	8,678	9,557	10,621	10,088	8,749	9,202	10,341	11,825	11,593	10,346	8,502	6,989	6,196	4,785	2,497	1,345	152,823
	Female	1,360	5,496	6,630	7,200	8,278	9,165	10,605	10,396	9,231	9,803	11,149	12,563	12,273	11,089	9,179	7,847	6,692	5,537	3,767	2,599	160,859
	Total	2,788	11,233	13,436	14,738	16,956	18,722	21,226	20,484	17,980	19,005	21,490	24,388	23,866	21,435	17,681	14,836	12,888	10,322	6,264	3,944	313,682
2013	Male	1,453	5,878	7,046	7,453	8,472	9,435	10,390	10,796	9,099	9,330	9,980	11,820	11,860	10,610	8,983	7,095	6,272	4,807	2,598	1,413	154,790
	Female	1,386	5,622	6,822	7,193	8,084	9,009	10,472	10,996	9,604	9,951	10,759	12,638	12,664	11,310	9,645	8,040	6,812	5,632	3,816	2,707	163,162
	Total	2,839	11,500	13,868	14,646	16,556	18,444	20,862	21,792	18,703	19,281	20,739	24,458	24,524	21,920	18,628	15,135	13,084	10,439	6,414	4,120	317,952
2014	Male	1,472	6,004	7,302	7,440	8,280	9,212	10,196	11,309	9,597	9,326	9,871	11,774	12,041	10,969	9,387	7,255	6,345	4,831	2,665	1,478	156,754
	Female	1,403	5,746	7,089	7,130	7,935	8,888	10,204	11,523	10,142	9,955	10,459	12,721	12,867	11,740	10,075	8,258	6,956	5,661	3,898	2,802	165,452
	Total	2,875	11,750	14,391	14,570	16,215	18,100	20,400	22,832	19,739	19,281	20,330	24,495	24,908	22,709	19,462	15,513	13,301	10,492	6,563	4,280	322,206
2015	Male	1,483	6,108	7,594	7,357	8,196	8,963	10,000	11,679	10,229	9,409	9,833	11,606	12,108	11,305	9,947	7,361	6,378	4,896	2,743	1,501	158,696
	Female	1,412	5,841	7,326	7,101	7,813	8,712	10,038	11,890	10,743	9,980	10,403	12,522	13,068	12,154	10,646	8,430	7,107	5,695	3,949	2,894	167,724
	Total	2,895	11,949	14,920	14,458	16,009	17,675	20,038	23,569	20,972	19,389	20,236	24,128	25,176	23,459	20,593	15,791	13,485	10,591	6,692	4,395	326,420

Population Projections for Special Regions
Region 310: Fortis BC, 1986 - 2031

Year	Sex	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+	Total
2016	Male	1,486	6,194	7,814	7,450	8,029	8,775	9,854	11,865	10,853	9,584	9,961	11,261	12,212	11,548	10,342	7,700	6,318	4,911	2,867	1,563	160,587
	Female	1,416	5,924	7,533	7,186	7,713	8,566	9,803	12,190	11,272	10,086	10,551	12,192	13,196	12,430	11,178	8,650	7,330	5,735	4,022	2,965	169,938
	Total	2,902	12,118	15,347	14,636	15,742	17,341	19,657	24,055	22,125	19,670	20,512	23,453	25,408	23,978	21,520	16,350	13,648	10,646	6,889	4,528	330,525
2017	Male	1,485	6,246	8,006	7,576	7,937	8,574	9,765	11,801	11,414	9,903	10,087	10,951	12,228	11,863	10,497	8,265	6,337	4,884	3,016	1,620	162,455
	Female	1,416	5,973	7,708	7,397	7,584	8,338	9,739	12,102	11,896	10,428	10,625	11,823	13,227	12,871	11,423	9,160	7,463	5,840	4,045	3,039	172,097
	Total	2,901	12,219	15,714	14,973	15,521	16,912	19,504	23,903	23,310	20,331	20,712	22,774	25,455	24,734	21,920	17,425	13,800	10,724	7,061	4,659	334,552
2018	Male	1,475	6,274	8,175	7,822	7,868	8,384	9,653	11,555	12,119	10,254	10,225	10,585	12,204	12,090	10,734	8,702	6,439	4,954	3,032	1,703	164,247
	Female	1,406	6,004	7,878	7,598	7,582	8,148	9,573	11,956	12,503	10,820	10,775	11,409	13,271	13,231	11,625	9,600	7,638	5,961	4,119	3,102	174,199
	Total	2,881	12,278	16,053	15,420	15,450	16,532	19,226	23,511	24,622	21,074	21,000	21,994	25,475	25,321	22,359	18,302	14,077	10,915	7,151	4,805	338,446
2019	Male	1,465	6,268	8,313	8,064	7,855	8,194	9,442	11,399	12,617	10,733	10,224	10,465	12,158	12,257	11,069	9,068	6,576	5,020	3,049	1,761	165,997
	Female	1,397	6,000	8,009	7,852	7,517	7,999	9,449	11,719	13,023	11,352	10,783	11,103	13,348	13,421	12,029	9,996	7,841	6,091	4,149	3,185	176,263
	Total	2,862	12,268	16,322	15,916	15,372	16,193	18,891	23,118	25,640	22,085	21,007	21,568	25,506	25,678	23,098	19,064	14,417	11,111	7,198	4,946	342,260
2020	Male	1,450	6,242	8,422	8,347	7,793	8,117	9,164	11,177	12,976	11,341	10,295	10,441	11,994	12,318	11,378	9,588	6,673	5,049	3,093	1,822	167,680
	Female	1,386	5,978	8,111	8,094	7,504	7,874	9,233	11,525	13,379	11,960	10,821	11,054	13,150	13,603	12,432	10,528	7,999	6,218	4,185	3,231	178,265
	Total	2,836	12,220	16,533	16,441	15,297	15,991	18,397	22,702	26,355	23,301	21,116	21,495	25,144	25,921	23,810	20,116	14,672	11,267	7,278	5,053	345,945
2021	Male	1,438	6,203	8,487	8,557	7,875	7,957	8,982	11,003	13,126	11,929	10,456	10,577	11,654	12,440	11,633	9,973	6,985	5,011	3,116	1,921	169,323
	Female	1,373	5,943	8,174	8,294	7,586	7,775	9,090	11,267	13,656	12,470	10,932	11,210	12,829	13,736	12,712	11,043	8,197	6,402	4,223	3,302	180,214
	Total	2,811	12,146	16,661	16,851	15,461	15,732	18,072	22,270	26,782	24,399	21,388	21,787	24,483	26,176	24,345	21,016	15,182	11,413	7,339	5,223	349,537
2022	Male	1,419	6,153	8,529	8,744	7,999	7,877	8,795	10,877	13,062	12,471	10,773	10,697	11,360	12,456	11,933	10,116	7,488	5,032	3,109	2,016	170,906
	Female	1,356	5,893	8,221	8,474	7,790	7,650	8,860	11,178	13,564	13,083	11,290	11,286	12,449	13,756	13,142	11,276	8,668	6,517	4,309	3,337	182,099
	Total	2,775	12,046	16,750	17,218	15,789	15,527	17,655	22,055	26,626	25,554	22,063	21,983	23,809	26,212	25,075	21,392	16,156	11,549	7,418	5,353	353,005
2023	Male	1,406	6,096	8,534	8,904	8,234	7,794	8,593	10,741	12,811	13,152	11,116	10,837	11,012	12,452	12,180	10,357	7,884	5,122	3,156	2,063	172,444
	Female	1,340	5,840	8,227	8,628	7,988	7,628	8,680	10,987	13,420	13,656	11,672	11,441	12,051	13,816	13,514	11,485	9,089	6,669	4,397	3,403	183,931
	Total	2,746	11,936	16,761	17,532	16,222	15,422	17,273	21,728	26,231	26,808	22,788	22,278	23,063	26,268	25,694	21,842	16,973	11,791	7,553	5,466	356,375
2024	Male	1,389	6,031	8,520	9,039	8,481	7,802	8,390	10,493	12,657	13,626	11,593	10,833	10,898	12,408	12,339	10,673	8,206	5,242	3,198	2,094	173,912
	Female	1,323	5,782	8,209	8,755	8,232	7,582	8,512	10,849	13,180	14,149	12,208	11,449	11,748	13,896	13,702	11,879	9,459	6,852	4,488	3,455	185,709
	Total	2,712	11,813	16,729	17,794	16,713	15,384	16,902	21,342	25,837	27,775	23,801	22,282	22,646	26,304	26,041	22,552	17,665	12,094	7,686	5,549	359,621
2025	Male	1,379	5,975	8,484	9,148	8,760	7,734	8,327	10,252	12,457	13,966	12,189	10,898	10,856	12,226	12,379	10,950	8,659	5,325	3,223	2,148	175,335
	Female	1,312	5,729	8,182	8,855	8,473	7,562	8,391	10,659	13,003	14,492	12,808	11,473	11,680	13,683	13,866	12,259	9,950	6,984	4,591	3,487	187,439
	Total	2,691	11,704	16,666	18,003	17,233	15,296	16,718	20,911	25,460	28,458	24,997	22,371	22,536	25,909	26,245	23,209	18,609	12,309	7,814	5,635	362,774
2026	Male	1,366	5,911	8,424	9,217	8,957	7,826	8,171	10,055	12,289	14,117	12,777	11,055	10,994	11,899	12,492	11,198	8,989	5,574	3,197	2,191	176,699
	Female	1,303	5,666	8,131	8,920	8,664	7,649	8,291	10,496	12,738	14,770	13,318	11,588	11,835	13,364	13,991	12,535	10,424	7,170	4,730	3,534	189,117
	Total	2,669	11,577	16,555	18,137	17,621	15,475	16,462	20,551	25,027	28,887	26,095	22,643	22,829	25,263	26,483	23,733	19,413	12,744	7,927	5,725	365,816
2027	Male	1,352	5,868	8,362	9,262	9,154	7,951	8,106	9,859	12,185	14,060	13,317	11,371	11,102	11,588	12,485	11,463	9,113	5,993	3,216	2,223	178,030
	Female	1,290	5,619	8,076	8,963	8,845	7,838	8,177	10,263	12,670	14,678	13,934	11,932	11,890	12,976	14,001	12,948	10,644	7,584	4,815	3,598	190,741
	Total	2,642	11,487	16,438	18,225	17,999	15,789	16,283	20,122	24,855	28,738	27,251	23,303	22,992	24,564	26,486	24,411	19,757	13,577	8,031	5,821	368,771
2028	Male	1,344	5,809	8,285	9,267	9,308	8,164	8,052	9,658	12,047	13,809	13,981	11,712	11,241	11,258	12,486	11,692	9,329	6,319	3,287	2,272	179,320
	Female	1,282	5,565	8,006	8,975	8,996	8,023	8,173	10,078	12,474	14,524	14,497	12,320	12,046	12,582	14,058	13,304	10,842	7,955	4,932	3,690	192,322
	Total	2,626	11,374	16,291	18,242	18,304	16,187	16,225	19,736	24,521	28,333	28,478	24,032	23,287	23,840	26,544	24,996	20,171	14,274	8,219	5,962	371,642
2029	Male	1,338	5,763	8,210	9,241	9,433	8,376	8,036	9,472	11,808	13,686	14,458	12,196	11,236	11,162	12,448	11,839	9,617	6,569	3,379	2,300	180,567
	Female	1,278	5,522	7,932	8,957	9,120	8,241	8,119	9,915	12,345	14,292	14,997	12,868	12,050	12,278	14,134	13,483	11,214	8,280	5,067	3,762	193,854
	Total	2,616	11,285	16,142	18,198	18,553	16,617	16,155	19,387	24,153	27,978	29,455	25,064	23,286	23,440	26,582	25,322	20,831	14,849	8,446	6,062	374,421
2030	Male	1,332	5,719	8,131	9,200	9,531	8,630	7,962	9,400	11,551	13,481	14,789	12,791	11,315	11,144	12,308	11,895	9,885	6,932	3,439	2,342	181,777
	Female	1,271	5,481	7,858	8,918	9,209	8,462	8,102	9,792	12,140	14,106	15,323	13,484	12,090	12,228	13,941	13,651	11,583	8,708	5,163	3,824	195,334
	Total	2,603	11,200	15,989	18,118	18,740	17,092	16,064	19,192	23,691	27,587	30,112	26,275	23,405	23,372	26,249	25,546	21,468	15,640	8,602	6,166	377,111

Population Projections for Special Regions
Region 310: Fortis BC, 1986 - 2031

Year	Sex	<1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90+	Total
2031	Male	1,332	5,685	8,058	9,142	9,592	8,819	8,052	9,239	11,351	13,321	14,933	13,381	11,472	11,289	11,997	12,006	10,123	7,191	3,618	2,353	182,954
	Female	1,272	5,448	7,780	8,871	9,270	8,657	8,182	9,690	11,977	13,842	15,596	13,990	12,213	12,381	13,639	13,776	11,842	9,119	5,308	3,924	196,777
	Total	2,604	11,133	15,838	18,013	18,862	17,476	16,234	18,929	23,328	27,163	30,529	27,371	23,685	23,670	25,636	25,782	21,965	16,310	8,926	6,277	379,731

Prepared by: Population Section, BC STATS
Ministry of Labour and Citizens Services
Government of the Province of British Columbia
Using P.E.O.P.L.E. Projection Model, Projection 31

Date run: May 4, 2006.
Prepared for: Ministry of Labour and Citizens Services
Enquiries: Population Section, BC STATS
Ministry of Labour and Citizens Services, (250) 387-0327

Note: All figures as of July 1. Figures for the period 2006-2031 are projected

ENERGY MARKET REPORT

by Ehud Abadi & Robert Mullin

daily

Friday, August 24, 2007 Vol. 13, No. 165

Western Pre-Scheduled Firm Power Price Ranges

Prices for 8/26/2007

	Peak				Off-Peak			
	Low		High		Low		High	
	$/MWh	Change**	$/MWh	Change**	$/MWh	Change**	$/MWh	Change**
NW/N. Rockies*	44.00	NA	51.00	NA	44.00	NA	51.00	NA
Mid-Columbia*	44.00	NA	47.25	NA	44.00	NA	47.25	NA
COB*	45.75	NA	48.00	NA	45.75	NA	48.00	NA
N. California*	45.00	NA	48.25	NA	45.00	NA	48.25	NA
Midway/Sylmar*	NA	NA	NA	NA	NA	NA	NA	NA
S. California*	43.25	NA	48.00	NA	43.25	NA	48.00	NA
Mead*	44.50	NA	44.50	NA	44.50	NA	44.50	NA
Palo Verde*	39.50	NA	41.50	NA	39.50	NA	41.50	NA
Inland SW*	39.50	NA	44.50	NA	39.50	NA	44.50	NA
4-Corners*	40.75	NA	41.75	NA	40.75	NA	41.75	NA
Central Rockies*	NA	NA	NA	NA	NA	NA	NA	NA

Prices for 8/27/2007

	Low		High		Low		High	
	$/MWh	Change**	$/MWh	Change**	$/MWh	Change**	$/MWh	Change**
NW/N. Rockies	54.75	NA	64.00	NA	44.00	NA	51.00	NA
Mid-Columbia	54.75	NA	57.75	NA	44.00	NA	47.25	NA
COB	61.00	NA	63.25	NA	45.75	NA	48.00	NA
N. California	62.00	NA	65.50	NA	45.00	NA	48.25	NA
Midway/Sylmar	NA	NA	NA	NA	NA	NA	NA	NA
S. California	60.00	NA	65.25	NA	43.25	NA	48.00	NA
Mead	66.00	NA	69.00	NA	44.50	NA	44.50	NA
Palo Verde	58.00	NA	65.25	NA	39.50	NA	41.50	NA
Inland SW	58.00	NA	69.00	NA	39.50	NA	44.50	NA
4-Corners	65.25	NA	68.25	NA	40.75	NA	41.75	NA
Central Rockies	65.00	NA	67.50	NA	NA	NA	NA	NA

*** denotes trading of flat, 24-hour product.**

**** "NA" changes are not applicable because prices for peak and off-peak goods are not comparable to flat products.**

EMR Prices include price ranges from various sources, including confidential phone communication, marketer and LSE trade sheets, and prices reported by the Intercontinental Exchange (ICE).

WECC

Wholesale energy prices in the Western region finally bounced back and saw some gains, although it took a little help from trading the flat-Sunday/Monday package. Obviously, off-peak prices showed the biggest gains as they were scheduled for Sunday daytime, but peak gains were not too far behind, and actually outpaced the latter at COB. Heavy-load prices for Monday were about 4 to 8$/MWh higher than they were for Friday delivery. All of this happened in seeming disregard for steady, or even lower weekend temperatures throughout much of the region, and decidedly cheaper natural gas. Most hubs in the West saw spot prices lose between 1 and 10 cents/mmBtu, but several hubs in the Rockies saw much bigger losses, around 40 to 60 cents/mmBtu. Natural gas futures on NYMEX were down again, but slightly. The September contract lost 9.9 cents to settle at 5.523$/mmBtu, and October closed 10.6 cents lower at 5.739$/mmBtu.

Northwest

Energy prices were on the upswing throughout the West, and Mid-Columbia was no exception. Trading was for the all-day Sunday/Monday package, and heavy-load gains of almost 5$/MWh were coupled with light-load gains of almost 7$/MWh. Mid-C saw peak blocks for Monday selling from 54.75 to 57.75$/MWh, while Sunday/Monday light loads sold from 44 to 47.25$/MWh. Trading was busy in the region and other hubs saw higher prices, up to 64$/MWh for peak blocks, and as high as 51$/MWh for the off-peak. Weather for Tuesday is expected to be significantly warmer at all the region's major load centers. Portland and Spokane should see daytime highs in the mid-80s, while Seattle tops off in the mid-70s. Overnight lows throughout the Northwest are expected to be in the mid-to-upper 50s. The latest six-to-ten day forecast showed temperatures to be at above-normal levels throughout the region from August 30 through September 3. In unit news, there were no new outages or service disruptions reported on Friday.

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California

Much of the day's electricity trading in California looked like what took place in the rest of the Western region. Big gains for the flat Sunday/Monday package carried from light loads into heavy-load prices as well. Interestingly though, peak gains at COB outstripped off-peak gains by about 1.50$/MWh on a day when light loads usually gain almost double what heavy loads do. The result of this was that peak blocks at COB traded at levels much closer to SP-15 and NP-15 than normal, suggesting that the Northwest was a net exporter of power southwards. In spreads, COB saw Monday heavy loads going for between 61 and 63.25$/MWh, while the Sunday/Monday light load sold from 45.75 to 48$/MWh. At NP-15, daytime energy was purchased for between 62 and 65.50$/MWh, while nighttime blocks were traded from 45 to 48.25$/MWh. Finally, SP-15 saw peak energy trading between 60 and 65.25$/MWh, while the off-peak tracked from 43.25 to 48$/MWh. The latest six-to-ten day forecast showed temperatures to be above their historical averages from August 30 through September 3. In unit news, SCE's Big Creek hydro plant (1,020 MW) was curtailed back to 733 MW on Friday.

Southwest

In a typical Friday session of trading, both heavy and light-load prices saw gains in the Southwest, and while peak blocks added about 4$/MWh, off-peak prices jumped up by almost 8$/MWh on the flat Sunday/Monday schedule. At Mead, heavy loads for Monday were seen selling between 66 and 69$/MWh, while Sunday/Monday light loads sold for a flat 44.50$/MWh. Palo Verde saw peak blocks trading between 58 and 65.25$/MWh, while the off-peak sold from 39.50 to 41.50$/MWh. In the weather for Tuesday, not much is expected to change. Daytime highs in Las Vegas and Phoenix should be in the lower 100s, with overnight lows in the lower 80s. Meanwhile, Denver and Salt Lake City should see high temperatures in the 80s and 90s, with lows in the 50s and 60s. The latest six-to-ten day forecast showed temperatures to be above their normal levels throughout almost the entire region from August 30 through September 3. In unit news, there were no new outages or service disruptions reported on Friday.

Western Natural Gas ($/mmBtu)

NYMEX Henry Hub

	Close	Change
Sep	5.523	-0.099
Oct	5.739	-0.106

Western Spot Gas

	Low	High
PG&E CG	5.54	5.63
Sumas	4.87	5.00
SoCal	5.24	5.33
San Juan	5.03	5.12
Waha	5.33	5.46

OTC Western Forward Electricity Costs in $/MWh

	Mid-Columbia				Palo Verde				SP-15				NP-15				Mead			
	On-Peak		Off-Peak		On-Peak		Off-Peak		On-Peak		Off-Peak		On-Peak		Off-Peak		On-Peak		Off-Peak	
	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask	Bid	Ask
Sep 2007	50.00	51.00	NA	NA	51.50	52.50	NA	NA	58.00	59.00	NA	NA	57.50	58.50	NA	NA	NA	NA	NA	NA
Oct 2007	47.75	48.75	NA	NA	47.25	48.25	NA	NA	54.75	55.75	NA	NA	54.25	55.25	NA	NA	NA	NA	NA	NA
Q4 2007	54.75	55.75	NA	NA	51.50	52.50	NA	NA	60.50	61.50	NA	NA	61.35	62.35	NA	NA	NA	NA	NA	NA
Q1 2008	60.50	61.50	NA	NA	60.75	61.75	NA	NA	67.25	68.25	NA	NA	67.00	68.00	NA	NA	54.75	55.75	NA	NA
Q2 2008	46.25	47.25	NA	NA	62.75	63.75	NA	NA	67.00	68.00	NA	NA	65.50	66.50	NA	NA	63.75	64.75	NA	NA
Q3 2008	73.00	74.00	NA	NA	83.00	84.00	NA	NA	88.25	89.25	NA	NA	87.00	88.00	NA	NA	65.75	66.75	NA	NA
Q4 2008	68.25	69.25	NA	NA	64.00	65.00	NA	NA	74.25	75.25	NA	NA	75.10	76.10	NA	NA	88.25	89.25	NA	NA
Q1 2009	69.25	70.25	NA	NA	68.75	69.75	NA	NA	75.75	76.75	NA	NA	75.50	76.50	NA	NA	67.50	68.50	NA	NA
Cal 08	62.10	63.10	50.50	51.50	67.75	68.75	47.75	48.75	74.25	75.25	54.25	55.25	73.75	74.75	54.75	55.75	71.50	72.50	51.00	52.00
Cal 09	65.50	66.50	53.25	54.25	70.75	71.75	50.25	51.25	77.75	78.75	56.75	57.75	77.25	78.25	57.25	58.25	74.25	75.25	53.25	54.25
Cal 10	65.00	66.00	53.00	54.00	70.25	71.25	50.00	51.00	76.75	77.75	56.00	57.00	76.25	77.25	56.50	57.50	73.50	74.50	52.75	53.75
Cal 11	65.25	66.25	52.75	53.75	69.25	70.25	49.25	50.25	75.25	76.25	55.25	56.25	74.75	75.75	55.75	56.75	72.35	73.35	51.75	52.75
Cal 13	67.60	68.60	54.75	55.75	71.35	72.35	50.75	51.75	76.60	77.60	56.25	57.25	76.10	77.10	56.75	57.75	74.10	75.10	52.75	53.75
Cal 14	68.85	69.85	55.25	56.25	72.10	73.10	51.00	52.00	77.10	78.10	56.50	57.50	76.60	77.60	57.00	58.00	74.85	75.85	53.00	54.00
Cal 15	69.60	70.60	56.00	57.00	72.60	73.60	51.50	52.50	77.60	78.60	57.00	58.00	77.10	78.10	57.50	58.50	75.35	76.35	53.50	54.50
Cal 16	70.35	71.35	56.75	57.75	73.10	74.10	52.25	53.25	78.10	79.10	57.75	58.75	77.60	78.60	58.25	59.25	75.85	76.85	54.25	55.25

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Energy Market Report **Friday, August 24, 2007**

CAISO Congestion Index in $/MWh

	Path	Peak	Off-Peak
8/25/2007	NW1 to NP15	0.82	0.00
	NW3 to SP15	0.76	0.00
	AZ2 to SP15	0.00	0.00
	AZ3 to SP15	0.00	1.27
	LC1 to SP15	0.00	0.00
	SP15 to NP15	0.00	0.00

Alberta Power Pool Index in C$/MWh

	Peak (14)	Peak (16)	Off-Peak	Flat	Change
8/23/2007	53.11	49.83	21.38	41.12	-0.29

CIBC Energy Update Western OTC Forward Natural Gas Prices in $/mmBtu

Dates	NYMEX	Sumas	Malin	Rockies	SoCal
Sep-07 to Oct-07	5.63	4.96	5.11	2.61	5.10
Nov-07 to Mar-08	7.66	7.30	7.02	5.55	6.90
Apr-08 to Oct-08	7.55	6.92	7.07	6.04	7.01

Data provided by CIBC World Markets' Energy update and NYMEX. The prices provided by CIBC are indications only, as prices fluctuate throughout the day. All prices are based on NYMEX settlements for the day of publication, and prices for other hubs cannot be guaranteed by either CIBC or the EMR. Investors should use above prices at their own risk, as CIBC and the EMR are not responsible for any inaccuracies contained in the above data set.

Western Break-Even Heat Rates

HUB	Gas Hub	Spot Gas, $/mmBtu	Plant Type	Peak Break-even Heat Rate	Off-Peak Break-even Heat Rate	Var. O & M	Avg. Spot Peak, $/MWh	Avg. Spot Off-Peak, $/MWh
Mid-C	Sumas	$5.00	CC	10,750	8,625	$2.50	$56.25	$45.63
Mid-C	Sumas	$5.00	CT	10,450	8,325	$4.00	$56.25	$45.63
NP-15	PG&E	$5.63	CC	10,879	7,837	$2.50	$63.75	$46.63
NP-15	PG&E	$5.63	CT	10,613	7,571	$4.00	$63.75	$46.63
SP-15	SoCal	$5.33	CC	11,280	8,091	$2.50	$62.63	$45.63
SP-15	SoCal	$5.33	CT	10,999	7,810	$4.00	$62.63	$45.63

*Avg. Spot Peak and Off-Peak prices represent **arithmetic** averages between the daily high and low price for each hub. Variable O&M costs are approximations of Combined Cycle and Combustion Turbine plant VOMs only.*

Western City Temperature Forecasts

		25-Aug-2007			26-Aug-2007			27-Aug-2007			28-Aug-2007			29-Aug-2007		
Region	City	High	Low	HDD/CDD	High	Low	HDD/CDD	High	Low	HDD/CDD	High	Low	HDD/CDD	High	Low	HDD/CDD
CA	Fresno	103	71	/22	100	68	/19	98	69	/18.5	100	69	/19.5	101	70	/20.5
CA	Los Angeles	82	66	/9	81	67	/9	84	65	/9.5	87	66	/11.5	88	66	/12
CA	Sacramento	94	60	/12	92	60	/11	96	61	/13.5	97	62	/14.5	98	62	/15
CA	San Francisco	72	56	1/	71	55	2/	71	55	2/	70	55	2.5/	71	56	1.5/
NW	Portland	74	60	/2	71	55	2/	75	58	/1.5	85	59	/7	85	59	/7
NW	Seattle	70	56	2/	70	52	4/	69	52	4.5/	76	55	/0.5	80	56	/3
NW	Spokane	88	55	/6.5	76	48	3/	77	50	1.5/	82	54	/3	88	54	/6
Rockies	Denver	88	58	/8	93	60	/11.5	82	56	/4	84	56	/5	80	54	/2
SW	Las Vegas	107	83	/30	99	81	/25	99	81	/25	102	82	/27	103	83	/28
SW	Phoenix	100	81	/25.5	98	82	/25	101	83	/27	105	85	/30	106	84	/30
SW	Salt Lake City	97	69	/18	96	68	/17	91	67	/14	93	67	/15	94	69	/16.5

Western Generating Unit Outages

	Capacity	Unit	Owner*	Fuel	Begins	Ends	Reason
Current	**2,067**	CAISO units curtailed < 250 MW	various	various	NA	NA	planned and unplanned
	1,020	**Big Creek**	**SCE**	**hydro**	**8/24/2007**	**?**	**@ 733 MW, planned**
	754	Moss Landing #6	Duke	gas	8/12/2007	?	@ 355 MW, unplanned
	525	Mountainview #4	SCE	gas	8/23/2007	?	@ 240 MW, unplanned
	375	San Luis	CDWR	hydro	8/13/2007	?	@96 MW, planned

Bold denotes change from previous EMR. *Entity with majority share of the unit.

Future outages are provided in part by NukeWorker.com. These are estimates and could change at any time.

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Eastern Pre-Scheduled Firm Power Price Ranges

Prices for 8/27/2007	Peak				Off-Peak			
	Low		High		Low		High	
	$/MWh	Change	$/MWh	Change	$/MWh	Change	$/MWh	Change
AEP	NA	NA	NA	NA	NA	NA	NA	NA
Cinergy	66.00	NA	66.00	NA	NA	NA	NA	NA
Entergy	63.00	-13.50	65.00	-12.00	NA	NA	NA	NA
ERCOT	59.75	-1.75	62.25	-1.50	NA	NA	NA	NA
ERCOT-North	61.25	-1.25	62.50	-1.00	NA	NA	NA	NA
Nepool	63.50	-6.50	64.50	-6.50	46.00	-2.75	47.00	-2.50
N Illinois	60.00	NA	60.00	NA	NA	NA	NA	NA
PJM-West	66.25	-14.50	66.50	-15.50	NA	NA	NA	NA
TVA	68.00	-18.00	68.00	-18.00	NA	NA	NA	NA

***Indicates system firm trades.**

EMR Prices include price ranges from various sources, including confidential phone communication, marketer and LSE trade sheets, and prices reported by the Intercontinental Exchange (ICE).

Fifth Time's a Charm for Southern

Atlanta-based Southern Company said Friday that, for the fifth time this month, it set a new peak demand record for electricity use Wednesday in the 120,000 square-mile territory the utility serves in Alabama, Florida, Georgia, and Mississippi. The company said that between 4 and 5 p.m. its customers used about 40,870 megawatts, exceeding by 226 megawatts the previous record set on August 9. The Wednesday figure was 2,814 megawatts higher than last summer's peak usage of 38,056 megawatts on August 10, 2006.

Eastern Interconnection

There were no weekend premiums to be found Friday in day-ahead prices for power traded for Monday. Every major hub in the Eastern and ERCOT interconnections was down, although in varying degrees, with the biggest declines posted in the Mid-Atlantic and Southeast regions. Nepool registered a firm drop as well, with peak blocks giving up more than 6$/MWh in trading from 63.50 to 64.50$/MWh, while the off-peak was picked up for between 46 and 47$/MWh, off about 2$/MWh from Thursday's levels. Spot natural gas continued to fall on Friday, completing a week that saw significant declines in the price of that commodity after Hurricane Dean tracked a course that avoided U.S. gas and oil infrastructure in the Gulf of Mexico. Prices generally pulled back by 5 to 10 cents/mmBtu in the East and Gulf regions, while the Mid-Continent area saw steeper slides in the 10-to-25 cents/mmBtu range. On NYMEX, natural gas futures resumed their downward trajectory, as the September contract shed 9.9 cents to settle at 5.523$/mmBtu, and October closed down 10.6 cents at 5.739$/mmBtu.

The most recent six-to-ten day forecast for the period covering August 30 to September 3 called for below-average temperatures throughout nearly the entire eastern half of the country. Normal temperature conditions were predicted only for the eastern Dakotas, northwestern Minnesota, northern Maine, and northern Florida. The western Dakotas and southern Florida can expect to be warmer than usual during the forecast timeframe.

Midwest

Both day-ahead and real-time power were traded only sparsely in the Midwest on Friday, as the region looked forward to warm, but comfortable, temperatures over the weekend, before the return of more heat on Monday. Cinergy and North Illinois were the only two hubs to see real-time peak blocks change hands, with those packages going for 66$/MWh at the former hub and 60$/MWh at the latter. Portions of the Midwest were forecast to experience slight warming on Tuesday, as highs reach about 90 degrees in Chicago and Cincinnati, while still topping out in the relatively mild mid-80s in Detroit and Pittsburgh. Nightfall should bring lows ranging from the lower 60s along the eastern edge of the region to the lower 70s at points farther west. In regional news, Ameren Illinois said Friday that by Friday afternoon it expected to have restored power to nearly all of the customers in Warren and LaSalle counties who lost power during a strong windstorm Thursday afternoon. At the peak of the storm nearly 33,000 Ameren customers were without power. In nuclear unit news, Exelon's Braidwood #2 (1,154 MW) in Illinois was shut down after two circulating pumps in the plant's condenser failed during a severe storm. The cause of the malfunction was still under investigation as of Friday morning.

PJM

Wholesale power prices fell sharply in modest trading in the Mid-Atlantic region on Friday, when day-ahead peak blocks plummeted by about 15$/MWh on weak volumes transacted between 66.25 and 66.50$/MWh. Their real-time counterparts opened only a slightly wider spread between 65 and 67$/MWh during the session. LMPs averaged 76.88$/MWh over the day, falling to a low of 33.17$/MWh in the early morning, and hitting a maximum of 259$/MWh in the late afternoon. After a

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sweltering start to the weekend, Mid-Atlantic weather should return to seasonably warm conditions by the beginning of next week, with temperatures hovering in the mid-80s Tuesday in Baltimore, Philadelphia, and Washington, D.C. During the overnight period, all three cities will likely experience lows in the mid-60s. In nuclear unit news, there were no new reports of outages or service disruptions from facilities in the region.

Southeast

Bulk electricity prices shed significant value in moderate trading in the Southeast on Friday. At Entergy, peak blocks lost more than 12$/MWh in exchanges from 63 to 65$/MWh. A small number of firm peak pieces changed hands at the TVA delivery point as well, going for an even 68$/MWh, down 18$/MWh from Thursday's session. While hot weather will persist throughout most of the region on Tuesday, areas of the Southeast should get some relief from recent extreme heat. During the daytime, highs were predicted to reach about 90 degrees in Atlanta and New Orleans, 96 degrees in Nashville, and 88 in Raleigh-Durham. At night, lows should drop to around 70 degrees at most points, while settling into the upper 70s close to the Gulf Coast. In nuclear unit news, Browns Ferry #3 (1,118 MW) joined units #1 and #2 on the curtailed list after the TVA reduced power to 75 percent due to high river temperatures around the plant's outtake. Units #1 (1,065 MW) and #2 (1,118 MW) were also both further reduced to 50 percent capacity.

Texas

Day-ahead power prices were nudged just a bit lower during Texas trading on Friday, likely the result of continued softness in spot natural gas markets. Volumes were uncharacteristically light at Seller's Choice, but brisker than normal at ERCOT-North, as both hubs saw the heavy load bought and sold from 59.75 to 62.50$/MWh. The only light-load blocks swapped during the session were odd-shaped, multi-day packages designed to cover all or part of the weekend. Hot weather was predicted to persist in much of Texas on Monday, as daytime highs continue to climb into the mid-90s in Dallas and El Paso, while Houston registers a relatively mild 91 degrees. Nighttime will likely bring the state lows in the lower-to-mid 70s. In nuclear unit news, there were no new reports of outages or service disruptions from facilities within the state.

Eastern Natural Gas ($/mmBtu)

NYMEX Henry Hub

	Close	Change
Sep	5.523	-0.099
Oct	5.739	-0.106

Eastern Spot Gas

	Low	High
Waha	5.33	5.46
Katy	5.45	5.60
E Texas	5.45	5.58
LA Avg.	5.66	5.79
App. TCO	5.68	5.89
Chicago	5.45	5.52

Eastern Peak Load Forecasts (MW)

For	ERCOT	PJM	PJM West	Comed	AEP	Dayton	Duquesne	Dominion	NYISO
8/27/2007	56,358	45,359	6,869	17,785	22,602	3,488	2,507	16,345	24,807
8/28/2007	56,058	45,813	7,911	21,042	24,093	3,684	2,645	16,763	25,160

Eastern Break-Even Heat Rates

HUB	Gas Hub	Spot Gas, $/mmBtu	Plant Type	Peak Break-even Heat Rate	Off-Peak Break-even Heat Rate	Var. O & M	Avg. Spot Peak, $/MWh	Avg. Spot Off-Peak, $/MWh
ERCOT-W	Katy	$5.60	CC	10,446	NA	$2.50	$61.00	NA
ERCOT-W	Katy	$5.60	CT	10,179	NA	$4.00	$61.00	NA
ERCOT-W	San Juan	$5.12	CC	11,431	NA	$2.50	$61.00	NA
ERCOT-W	San Juan	$5.12	CT	11,138	NA	$4.00	$61.00	NA
ERCOT-E	E. Texas	$5.58	CC	10,484	NA	$2.50	$61.00	NA
ERCOT-E	E. Texas	$5.58	CT	10,215	NA	$4.00	$61.00	NA
Entergy	LA Avg.	$5.79	CC	10,627	NA	$2.50	$64.00	NA
Entergy	LA Avg.	$5.79	CT	10,368	NA	$4.00	$64.00	NA
Entergy	App. Avg.	$5.89	CC	10,441	NA	$2.50	$64.00	NA
Entergy	App. Avg.	$5.89	CT	10,187	NA	$4.00	$64.00	NA
N. ILL	Chicago CG	$5.52	CC	10,417	NA	$2.50	$60.00	NA
N. ILL	Chicago CG	$5.52	CT	10,145	NA	$4.00	$60.00	NA

Avg. Spot Peak and Off-Peak prices represent ***arithmetic*** *averages between the daily high and low price for each hub. Variable O&M costs are approximations of Combined Cycle and Combustion Turbine plant VOMs only.*

Energy Market Report is published each weekday except for holidays by Insight Research, Inc.
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Energy Market Report **Friday, August 24, 2007**

ERCOT Day-Ahead Market Report Summary (Averaged by Shape)

8/25/2007	Service	Avg. MW Requested	Avg. MW Procured	Wtd. Avg. Price ($/MWh)	Avg. MW Bid
Peak	Non-Spinning Reserve	931	764	$4.01	1,793
Off-Peak	Non-Spinning Reserve	0	0	$0.00	848
Peak	Regulation-Down Reserves	759	560	$4.87	2,215
Off-Peak	Regulation-Down Reserves	664	521	$3.52	1,662
Peak	Regulation-Up Reserves	709	526	$14.39	1,227
Off-Peak	Regulation-Up Reserves	698	516	$3.90	1,427
Peak	Response Requirement	2,300	1,182	$16.00	2,264
Off-Peak	Response Requirement	2,300	1,060	$3.97	2,246

CIBC Energy Update Eastern OTC Forward Natural Gas Prices in $/mmBtu

Dates	NYMEX	Ventura	Chicago	TZ6 (NYC)	TM3 (N. App.)
Sep-07 to Oct-07	5.63	5.13	5.45	6.13	6.10
Nov-07 to Mar-08	7.66	7.25	7.54	9.86	9.06
Apr-08 to Oct-08	7.55	7.21	7.46	8.25	8.15

Data provided by CIBC World Markets' Energy update and NYMEX. The prices provided by CIBC are indications only, as prices fluctuate throughout the day. All prices are based on NYMEX settlements for the day of publication, and prices for other hubs cannot be guaranteed by either CIBC or the EMR. Investors should use above prices at their own risk, as CIBC and the EMR are not responsible for any inaccuracies contained in the above data set.

Eastern City Temperature Forecasts

		25-Aug-2007			26-Aug-2007			27-Aug-2007			28-Aug-2007			29-Aug-2007		
Region	City	High	Low	HDD/CDD	High	Low	HDD/CDD	High	Low	HDD/CDD	High	Low	HDD/CDD	High	Low	HDD/CDD
ECAR	Cincinnati	89	65	/12	86	61	/8.5	88	66	/12	91	65	/13	88	66	/12
ECAR	Detroit	84	61	/7.5	80	60	/5	83	66	/9.5	84	69	/11.5	83	67	/10
ECAR	Pittsburgh	88	65	/11.5	82	61	/6.5	85	61	/8	85	61	/8	85	61	/8
ERCOT	Dallas	95	76	/20.5	96	76	/21	94	76	/20	94	76	/20	95	75	/20
ERCOT	El Paso	96	72	/19	97	70	/18.5	96	71	/18.5	97	70	/18.5	94	69	/16.5
ERCOT	Houston	95	75	/20	91	74	/17.5	91	74	/17.5	91	74	/17.5	91	74	/17.5
NIL	Chicago	77	61	/4	81	64	/7.5	86	71	/13.5	89	70	/14.5	81	65	/8
PJM	Baltimore	104	80	/27	91	68	/14.5	85	67	/11	86	66	/11	86	67	/11.5
PJM	Philadelphia	98	74	/21	89	69	/14	85	70	/12.5	87	67	/12	88	67	/12.5
PJM	Washington DC	99	78	/23.5	90	67	/13.5	85	66	/10.5	86	66	/11	86	66	/11
SERC	Atlanta	94	73	/18.5	93	73	/18	91	73	/17	91	72	/16.5	90	73	/16.5
SERC	Nashville	97	73	/20	94	70	/17	95	70	/17.5	96	71	/18.5	94	70	/17
SERC	New Orleans	89	78	/18.5	90	79	/19.5	90	78	/19	90	78	/19	90	79	/19.5
SERC	Raleigh-Durham	99	73	/21	96	71	/18.5	89	70	/14.5	88	69	/13.5	88	68	/13

NERC Aggregate Outages (Net change from previous trading day)

NERC Region	ECAR	ERCOT	FRCC	MAAC	MAIN	MAPP	NPCC	SERC	SPP	WECC
Total MWs Out	3,396	638	1,019	795	1,232	1,206	5,741	3,310	662	4,602
Net Change in Generation	-955	544	0	-59	-1,232	-336	1,233	640	558	1,798

The aggregate outage summary is provided by Industrial Information Resources. Greater detail and unit specific news can be found at Industrialinfo.com. These numbers represent the best information available during the morning of publication. Neither EMR nor IIR assume liability for any direct or indirect loss or damage of any kind arising from the use of this data, including losses or damages arising as a result of EMR or IIR's negligence.

Eastern Generating Unit Outages

Capacity	Unit	Owner*	Region	Type	Begins	Ramping Up	Reason	Notes
1,154	**Braidwood #2**	**Exelon**	**RFC/3**	**Nuke**	**08/23/07**	**?**	**Condenser circulating pump failure**	**0%**
1,065	Browns Ferry #1	TVA	SERC/2	Nuke	08/23/07	?	River temperature limit reached	**50%**
1,118	Browns Ferry #2	TVA	SERC/2	Nuke	08/16/07	?	River temperature limit reached	**50%**
1,118	**Browns Ferry #3**	**TVA**	**SERC/2**	**Nuke**	**08/24/07**	**?**	**River temperature limit reached**	**75%**
180	De Pere	Wisc. Pub. Serv.	RFC	Gas	01/08/07	?	Turbine refurbishment	0%
813	FitzPatrick	Entergy	NPCC/1	Nuke	08/20/07	?	Planned maintenance	**74%**
1,207	Grand Gulf #1	Entergy	SERC/4	Nuke	08/21/07	?	Reactor feed pump controller	**40%**
839	Saint Lucie #2	FPL	FRCC/2	Nuke	08/19/07	?	Reactor coolant system leakage	0%
640	Vermont Yankee	Entergy	NPCC/1	Nuke	08/22/07	?	Undetermined	**48%**

Bold denotes change from previous EMR. *Entity with majority share of the unit.
Future outages are provided in part by NukeWorker.com. These are estimates and could change at any time.

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2008 Electricity Price Forecast

Prepared - October 17, 2008

Description	Annual	Month	LLH	HLH	Average
EIA DOE Reference Case[1] (2008 C$/MWh)	**$72.4**	Jan	$64.3	$75.5	$68.0
		Feb	$69.5	$76.7	$71.9
		Mar	$56.9	$64.3	$59.4
		Apr	$48.0	$61.1	$52.3
		May	$45.5	$56.9	$49.3
		Jun	$51.2	$58.1	$53.5
		Jul	$60.8	$81.0	$67.5
		Aug	$71.7	$82.2	$75.2
		Sep	$69.8	$78.3	$72.7
		Oct	$80.0	$88.3	$82.7
		Nov	$77.5	$86.6	$80.5
		Dec	$88.8	$102.2	$93.3
BC Hydro IEP High Gas: Full Recovery[2] (2008 C$/MWh)	**$55.2**	Jan	$49.0	$57.6	$51.8
		Feb	$53.0	$58.5	$54.8
		Mar	$43.4	$49.0	$45.2
		Apr	$36.6	$46.6	$39.9
		May	$34.7	$43.4	$37.6
		Jun	$39.0	$44.3	$40.8
		Jul	$46.3	$61.7	$51.5
		Aug	$54.7	$62.7	$57.3
		Sep	$53.2	$59.7	$55.4
		Oct	$61.0	$67.3	$63.1
		Nov	$59.1	$66.0	$61.4
		Dec	$67.7	$77.9	$71.1
Confer - LRMC: Full Recovery[3] (2008 C$/MWh)	**$36.6**	Jan	$32.5	$38.1	$34.4
		Feb	$35.1	$38.7	$36.3
		Mar	$28.7	$32.5	$30.0
		Apr	$24.2	$30.9	$26.4
		May	$23.0	$28.7	$24.9
		Jun	$25.9	$29.4	$27.0
		Jul	$30.7	$40.9	$34.1
		Aug	$36.2	$41.5	$38.0
		Sep	$35.3	$39.5	$36.7
		Oct	$40.4	$44.6	$41.8
		Nov	$39.2	$43.7	$40.7
		Dec	$44.9	$51.6	$47.1
ICE Mid-C Cleared Forwards[4] (2008 C$/MWh)	**$60.4**	Jan	$56.3	$66.2	$62.9
		Feb	$56.6	$62.5	$60.5
		Mar	$49.7	$56.1	$54.0
		Apr	$39.0	$49.7	$46.1
		May	$35.0	$43.8	$40.8
		Jun	$36.9	$42.0	$40.3
		Jul	$52.5	$70.1	$64.3
		Aug	$71.2	$81.6	$78.1
		Sep	$68.0	$76.3	$73.5
		Oct	$64.2	$70.8	$68.5
		Nov	$63.3	$70.8	$68.2
		Dec	$61.5	$70.8	$67.6

1/ Annual forecast price is obtained from EIA Annual Energy Outlook 2007, Table 3. Energy Prices by Sector and Source.

2/ Annual forecast price is obtained from BCH 2006 IEP, Figure 3-9. Electricity Price Scenarios at BC Border by Calendar Year.

3/ Annual forecast price is obtained from BCH 2006 IEP, Figure 3-9. Electricity Price Scenarios at BC Border by Calendar Year.

4/ Mid-C Monthly HLH forward price offers are obtained from Data ICE on October 16, 2007.

Monthly Calculation Methodology for EIA, BCH IEP, and Confer forecast prices

EIA annual forecast is converted to Canadian $ using the posted exchange rate on October 16, 2007.

All three annual numbers are then converted to 2007 Real C$/MWh by using the CPI index posted on the Bank of Canada website.

All three annual 2007 Real C$/MWh are then converted to 2008 Real C$/MWh by using 2% as the forecast CPI index.

Previous three years of Mid-C actual HLH and LLH monthly prices are used to calculate the relations between the annual average, HLH and LLH prices.

The relations are then applied to the annual average numbers to calculate the monthly HLH and LLH prices.

Annual Calculation Methodology for ICE Mid-C Cleared Forwards

Monthly Mid-C HLH forward offers are converted to 2007 Real C$/MWh by the posted exchange rate on October 16, 2007.

The monthly Mid-C HLH forward offers are then converted to 2008 Real C$/MWh by using 2% as the forecast CPI index.

Previous three years of Mid-C actual HLH and LLH monthly prices are used to calculate the relations between the HLH and LLH prices.

The relations are then applied to the HLH monthly forward offers to calculate the monthly LLH prices and annual average price.

ICE is Intercontinental Exchange.

SOUTH SLOCAN UNIT 2 ALIGNMENT AND INSPECTION

Unit 2 was taken down on December 6th /04 to investigate alignment problems and apparent runner to seal contact that was discovered on the previous inspection . The machine's lower guide and turbine bearings were removed. The measurements in relationship to unit center that were taken warranted a check of shaft plumbness. The result of this check showed that the plumbness of the unit was .055 mils/inch in the 12:00 –6:00 plane, which is .034 mils/inch over tolerance. The thrust-bearing load was also found to be out of tolerance by approximately 100%. Once plumbness and load was corrected, we centered the shaft in the upper guide bearing, wedged the rotor to the stator and did a swing check of the runner to band clearance. We found that the clearance on the trackside was much more than we could obtain with feeler gauges. We can surmise from this that there is damage to the band running surface in this area. Once all the readings were obtained from the shaft to lower guide housing, turbine to headcover crown and band, the machine looks to be out of center at the upper bracket by .020". We then obtained stator/ rotor air gap readings and found that they did not correspond with the other data. After lengthy discussions, the decision was made to hold the shaft center to upper guide bearing and wedge the shaft over until it was in center of the lower bracket bearing housing and install the turbine bearing shoes. In this condition, the machine is centered in upper guide, centered in lower guide but not centered in the runner band and crown. The machine was started up on Dec 22nd and a mechanical run showed no abnormal bearing temperatures or vibration. During on line operation, there is a rough zone between 50% and 60% gate opening that causes the turbine vibration to exceed 15 mils. The vibrations observed at 90% gate opening were average 4mils on turbine and average 7mils on upper guide.

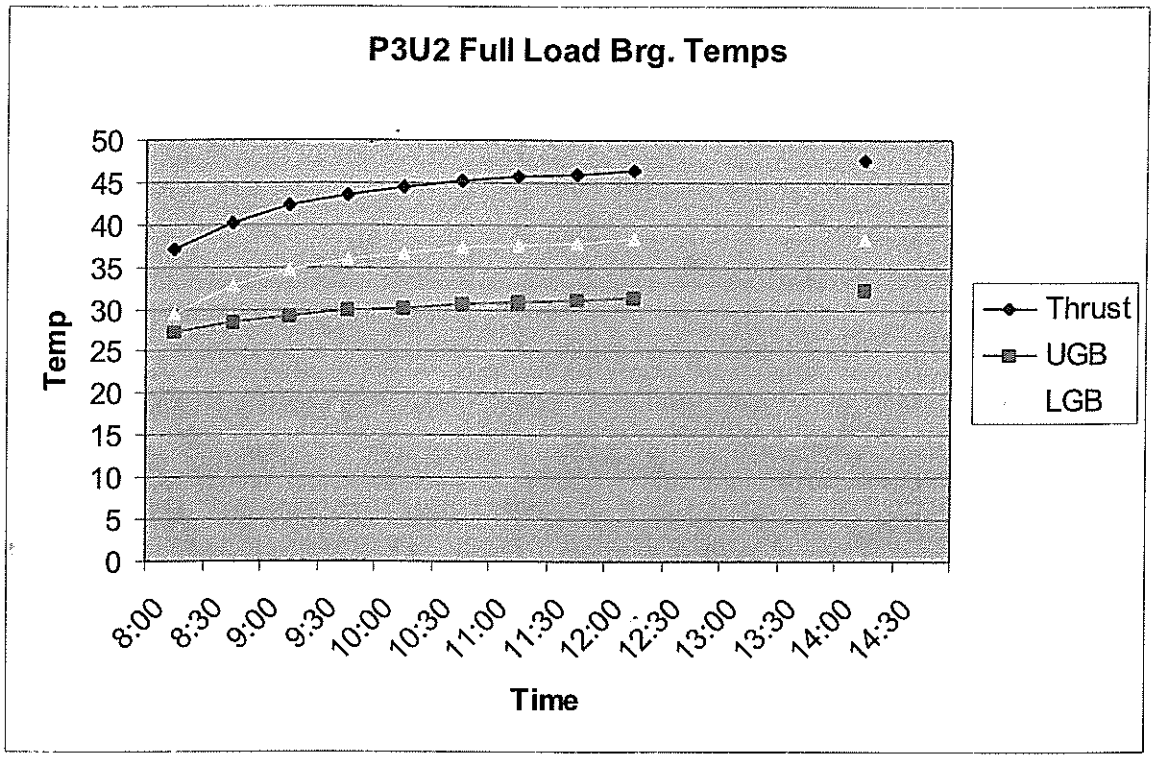
Damage to Bottom Ring running surface

The crown and band surfaces on the runner were designed to have labyrinth seal grooves machined into them at the factory. Since 2001 the measurements at the crown and band of the runner taken during inspections have been steadily increasing. Final crown and band clearances from the ULE seem to be fairly concentric, but the rotation checks show some eccentricity. Also for reference, upon installation, the turbine bearing shoes were uneven to the point that they had to shim the adjusting collar up 1 inch. There is a theory that a wedge was left in the band during an inspection but that does not explain the increase in crown clearance, and wedging the runner over to adjust turbine bearing is not normal practice. Speaking with the people involved in the ULE, Voith Hydro was concerned about the minimal crown and band clearance in relationship to the style of turbine bearing and stated that contact could be made if the bearing was allowed to wear excessively. The extent of damage to the band wearing ring surface is not known but if the runner came in contact with the bottom ring band surface in the T.S - D.S quadrant and caused a mirror image effect of the labyrinth seal onto the surface of the bottom ring the damage could be extensive. If a wedge was left in the runner to band clearance, then the damage would most likely be more localized. There is too much conflicting data to come up with a probable cause. For example how can the crown and band of the machine be on center (ULE final readings) and the

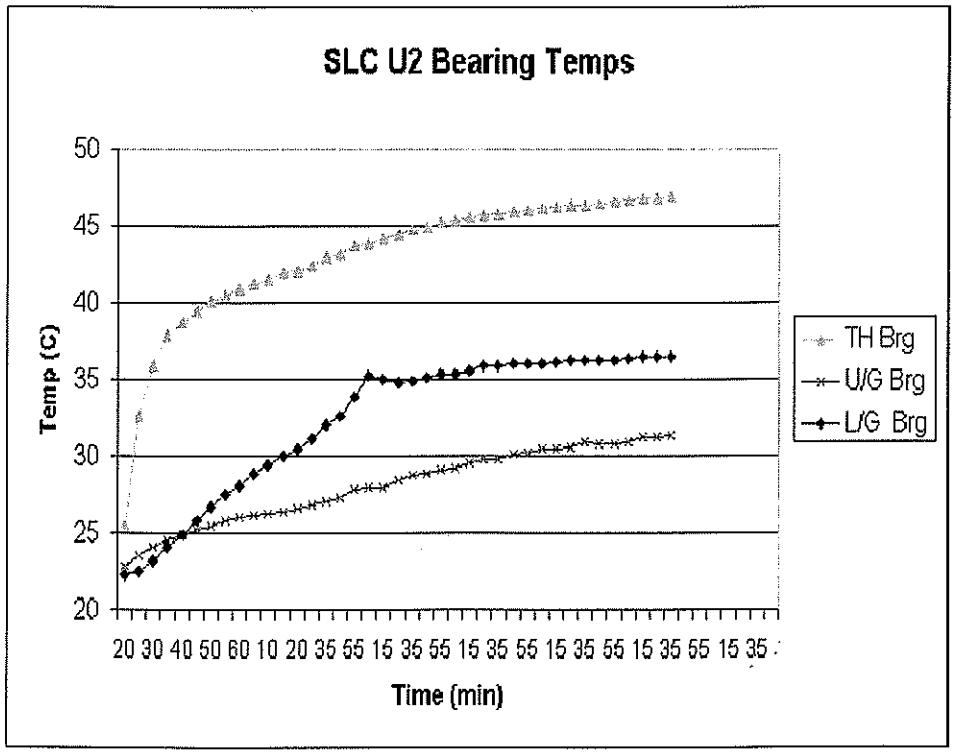
turbine shoes be at different heights (ULE reassembly daily journal) if the machine's headcover and lower bracket were on unit centerline. Why did the lower guide bearing temperature rapidly spike up during the mechanical run? How can the plumbness and the load of the thrust bearing change from being well within tolerance to being out by 100% of tolerance. Why have the crown measurements increased by approximately .070" since the ULE?

Reference Material Attached

1. P3-U2 ULE full load tests and pre-run checks Jan14th/01
2. P3- U2 ULE mechanical run and clearance checks Jan8th/01
3. P3-U2 ULE alignment report
4. P3-U2 ULE final runner crown/band diameters
5. P3-U2 Summary report April 26/04
6. P3-U2 seal clearances from inspection reports
7. P3-U2 Alignment daily journal and unit measurements Dec.06/04
8. P3-U2 Plumbness reports Jan.7th/01, Dec. 9th/04 and Dec.13th/04
9. P3-U2 Air gap readings Jan8th/01,Dec15th/04


P3U2 Full Load Brg. Temps
Temp
50
45
40
35
30
25
20
15
10
5
0
8:00
8:30
9:00
9:30
10:00
10:30
11:00
11:30
12:00
12:30
13:00
13:30
14:00
14:30
Time
Thrust
UGB
LGB

time	thrust	brgu/g	brgl/g	brg
20	25.5	22.8	22.3	
25	32.6	23.5	22.5	
30	35.9	24.1	23.2	
35	37.8	24.6	24.1	
40	38.7	24.9	24.9	
45	39.4	25.2	25.8	
50	40.1	25.4	26.7	
55	40.5	25.8	27.5	
60	40.9	26	28.1	
5	41.2	26.1	28.9	
10	41.5	26.2	29.4	
15	41.9	26.4	30	
20	42.1	26.6	30.5	
25	42.4	26.8	31.1	
35	42.9	27.1	32	
45	43.2	27.3	32.6	
55	43.7	27.8	33.9	
5	43.9	27.9	35.2	
15	44.2	28	35	
25	44.4	28.4	34.8	
35	44.8	28.7	34.9	
45	44.9	28.9	35.1	
55	45.2	29.1	35.3	
5	45.3	29.2	35.3	
15	45.6	29.5	35.6	
25	45.7	29.8	35.9	
35	45.8	29.8	35.9	
45	45.9	30.1	36	
55	46	30.2	36	
5	46.1	30.4	36	
15	46.2	30.5	36.1	
25	46.4	30.6	36.2	
35	46.4	30.9	36.3	
45	46.5	30.8	36.3	
55	46.6	30.8	36.3	
5	46.7	30.9	36.4	
15	46.8	31.2	36.5	
25	46.8	31.3	36.5	
35	46.9	31.4	36.5	
45				
55				
5				
15				
25				
35				
45				



From: Colonel, D'Arcy
Sent: Monday, December 11, 2000 10:41 AM
To: Grubba, Franz; Hope, Steve
Subject: FW: South Slocan Seal Clearance on Band

Hi Steve!

Voiths Response.

Have a nice day!
dcolonel

-----Original Message-----
From: Thomas.Hogue@VS-Hydro.Com [mailto:Thomas.Hogue@VS-Hydro.Com]
Sent: Monday, December 11, 2000 9:41 AM
To: dcolonel@wkpower.com
Cc: James.Beyer@VS-Hydro.Com; John.LeBrun@VS-Hydro.Com
Subject: South Slocan Seal Clearance on Band

Hi D'Arcy,
I had hydraulic engineering review your situation. They are okay with the localized running clearance getting reduced to 0.050 inch per side. However, you are more aware of the possibilities of any potential for contact between the rotating and stationary seal members resulting from this reduced clearance (such as bearing alignment, etc.) than we are and therefore must assume the responsibility for that risk.

Best regards,
Tom

P3 – U2 ALIGNMENT

Dec. 10
Wire hung and centered to UGB housing.
Head cover and bottom ring measurements show misalignment of up to .70" in US/DS axis.
Bottom ring measured out of round. Dowels removed and hold down bolts loosened giving a slight improvement.
Head cover flange completely bolted down - .005" gap at US/TS location.
Stator bore measured.

Dec. 11
Wire checked for centre to UGB.
Bottom ring move to best centre. Head cover moved to centre of extension counterbore. One more move required.
Lower bracket centred, dowel holes reamed.

Dec 12
Wire checked for centre to UGB.
Head cover final move to centre and bolted down.

Dec 14
Head cover bearing housing taper fit measured to centre wire. OK.
Doweling started on head cover and bottom ring.

From: Colonel, D'Arcy
Sent: Wednesday, December 13, 2000 12:23 PM
To: Grubba, Franz; Hope, Steve
Subject: FW: S Slocan Upgrade final runner crown and band seal dimensions

Hi Steve/Franz

Have a nice day!
dcolonel

-----Original Message-----
From: Thomas_M_Hogue/Voith/US@vhdln7.vhdh.de
[mailto:Thomas_M_Hogue/Voith/US@vhdln7.vhdh.de]
Sent: Wednesday, December 13, 2000 11:39 AM
To: dcolonel@wkpower.com
Cc: James_R_Beyer/Voith/US@vhdln7.vhdh.de
Subject: Re: S Slocan Upgrade final runner crown and band seal dimensions

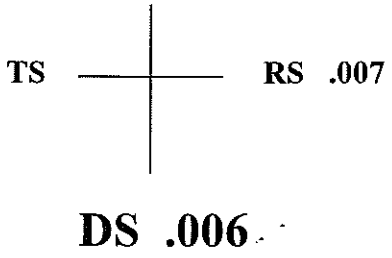
Hi D'Arcy,
The final Crown Seal Diameter is 138.497 inch.

The fianl Band Seal Diameter is 162.869 inch.

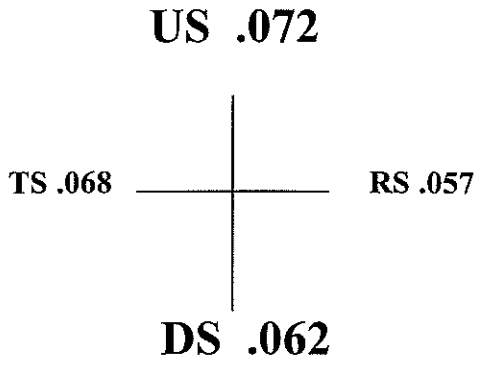
Tom

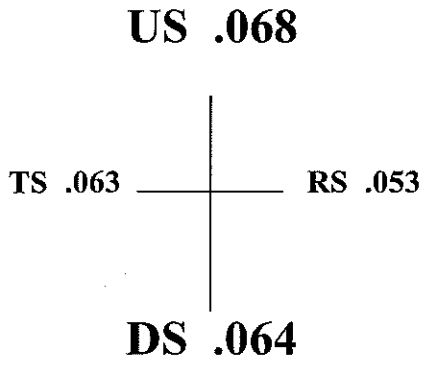
P3 U2 Upgrade Jan. 14/01

TURBINE BEARING TOTAL CLEARANCE



CROWN/BAND CLEARANCE





P3 U2 Upgrade **Runner Clearances (in inches) Jan14/01**

	CROWN	BAND
0' (leads US)	US .062 TS .065 — RS .060 DS .075	US .060 TS .068 — RS .050 DS .075
90'	US .065 TS .058 — RS .068 DS .062	US .068 TS .050 — RS .070 DS .060
180'	US .060 TS .040 — RS .075 DS .050	US .055 TS .035 — RS .080 DS .070
270'	US .050 TS .065 — RS .065 DS .078	US .045 TS .060 — RS .065 DS .080

Measurements taken with taper gauge

P-3 G-2 Summary Report

On April 26/04 Unit 2 at P-3 was shut down to accommodate the 230 kv. switchyard tie-in and to gather information on the apparent contact between the runner band and the seal face of the bottom ring. Upon un-watering of the unit the following data was recorded in the "As Found" condition. All clearances were checked
using feeler blades.

Crown & Band Clearances
(As Found)

Crown

US .135
TS .057 — RS .110
DS .051

Band

US .103
TS .000 — RS .073
DS .008

Lower Guide Bearing Clearances

US .006
TS .008 — RS .009
DS .013

Turbine Bearing Clearances

US/DS
.014

TS/RS
.022

The turbine bearing was adjusted during the previous inspection on March 15/04 and records show the clearances after adjustment, to be US/DS .002" and TS/RS .003". Therefore the bearing clearances increased by .012" on the US/DS and .019" on the RS/TS in aprox. 40 calendar days.

It was also noted that the two TS bearing segments were close to the end of their travel for future adjustment purposes, as indicated by the remaining thread on the "Push/Pull" segment studs.

The "As Found" condition indicates unequal bearing wear by excessive shaft pressure possibly due to some misalignment or some bearing housing out of roundness. For optimal bearing wear all eight "Push/Pull" studs should be projecting fairly evenly above the hold-down collar.

Upon inspection of the turbine band and the bottom ring, the extent of contact that occurred appears to be on the TS to US portion of the bottom ring. (aprox. ¼ of the rings circumference).This contact has resulted in some flaring up of the bottom ring seal material and some galling of the turbine band. With these two conditions present, obtaining accurate turbine band clearances at this location could prove to be difficult.

The seal material is still fastened to the bottom ring throughout its circumference, and the bottom ring appears to be situated evenly inside the base ring throat. There seems to be no evidence of any movement or uplift by the bottom ring, as all the visible fasteners seem to be intact (Belzona patches still in place) with ample clearance under the wicket gates.

Due to time constraints the flare on the bottom ring was not repaired and should be dressed during the next outage.(this requires the use of spindle grinders with flapper wheels). Closer inspection of the turbine band seal could be accomplished by hydraulically jacking the unit up on the generator brakes aprox. ½", enabling us to possibly dress any galling to the upper portion of the turbine band as well.

The unit does not have a "Dog- Leg" effect as indicated by the dial readings during the rotation checks, but appears to be off center only to the bottom ring seal as the crown seal clearances remained fairly constant throughout the rotation. Unfortunately the box level was not available to us for a check of shaft plumbness.

Upon completion of the rotation and clearance checks the two TS turbine bearing segments were hoisted up using the portable lifting device and shimmed with .087" SS. shims. It was noted that both segments have aprox. ½" of bearing material still remaining. After the shims were installed and the bearing adjusted the Push/Pull segment studs were projecting evenly on all bearing segments.

New main gland packing was installed and the unit watered up and returned to commercial service on April 29/04. All clearances were recorded in the "As Left" condition.

Rotation Checks

(Turbine Brng. Pulled Up And Clear Of Shaft)

Dials At Packing Journal Brng.

3
US .000
RS -.002

0
6
US .000
-.007
RS .000
-.004

6
US +.001
RS -.002

9
US +.001
RS +.001

Dials Below Lower Guide

3
US -.003
RS .000

0
US -.001
RS +.001

6
US
RS

9
US -.002
RS -.003

Turbine Clearances

(Taken @ Track-Side, 0 Position)

Crown

3
.069

0
.074

6
.066

9
.058

Band

3
.004

0
.002

6
.004

9
.004

Rotor Air Gap (Pole #27)

3
.343

0
.368

6
.386

9
.353

Crown & Band Clearances

(As Left)

Crown

US .091

TS .086 — RS .089

DS .090

Band

US .049

TS .021 — RS .051

DS .043

Lower Guide Brng. Clearances

US .003

TS .012 — RS .005

DS .01

Turbine Brng. Clearances

TS/RS .003

US/DS .0025

Runner Clearances

Date 2001		U.S.	D.S.	Total		T.S.	R.S.	Total
	Crown	0.082	0.035	0.117		0.065	0.042	0.107
	Band	0.080	0.035	0.115		0.065	0.045	0.110
Date 2002		U.S.	D.S.			T.S.	R.S.	
	Crown	0.103	0.030	0.133		0.070	0.065	0.135
	Band	0.093	0.040	0.133		0.053	0.075	0.128
Date 2003		U.S.	D.S.			T.S.	R.S.	
	Crown	0.127	0.085	0.212		0.068	0.107	0.175
	Band	0.092	0.026	0.118		0.038	0.097	0.135
Date 2004		U.S.	D.S.			T.S.	R.S.	
	Crown	.116	.071	.187		.105	.072	.117
	LGB TOP	.005	.007	.012		.007	.005	.012

December 06, 2004 – Alignment

Day Shift: **Brent Russell, Paul Matteucci, Joe Troyan, Rob Boyes, Shean O'Farrell, Joe Nazaroff**

- **Could not lower headgates due to clutch mechanisms being frozen**
- **(thawed out)**
- **Roller pad RS on Headgate 2-2 hanging up – operational after 3 trys**
- **Lowered both gates – Headgate 2-1 leaking badly, upon unwatering noticed piece of wood under gate**
- **Headgate raised and flushed again**
- **Obtained good seal on both headgates**
- **Upwatered penstock**
- **Could not obtain good seal to pump out draft tube**
- **Used 2 bags of ashes in each corner and along top of draft tube gates**
- **Obtained seal on draft tube gate**
- **Switched to flyght pump**

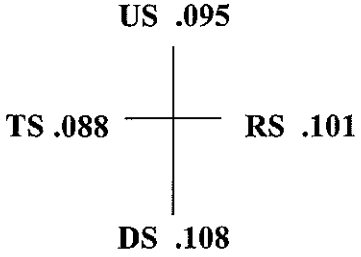
Afternoon Shift: Jay Kabatoff, Dorian Craft, Walter Kutzner

- **Flyght pump still on auto set at 46 mins.**
- **Removed generator covers, need a box of ½" NC x 1" bolts for installation**
- **Removed lower guide bearing oil tube, lube pump and ring gear**
- **Removed temp probe and lube pump piping**
- **Attempted to lower, lower guide bearing by using two 5 ton jacks pushing against the rotor**
- **Bearing housing would not break loose**
- **Measured lower guide bearing clearance and found the shaft hard up against the RS**
- **Need bigger jacks. Ran out of time to get them.**

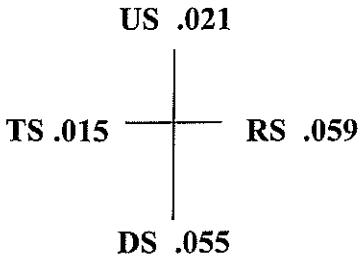
As Found Conditions

Crown and Band Clearances (Feelers)

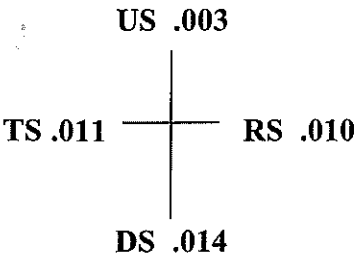
Crown



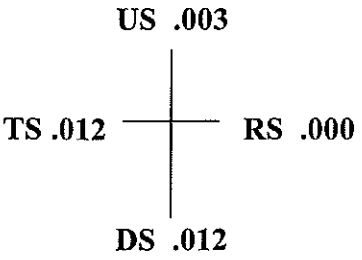
Band



Lower Guide Bearing Clearances (Top of Bearing)



Lower Guide Bearing Clearances (Bottom of Bearing)



Box level on generator shaft with lower guide bearing in place

3 Div US – Go DS for level

1 Div RS – Go TS for level

Box level on generator shaft with lower guide bearing out

December 07, 2004 - Alignment

Day Shift: Brent Russell, Paul Matteucci, Joe Nazaroff

- **Measured clearances on bottom of lower guide bearing**
- **Broke housing and bearing free and lowered to coupling**
- **Removed stuffing box lids and packing**
- **Obtained turbine clearances**
- **Dismantled stuffing box and moved splits to walkway**

Afternoon Shift: Dorian Craft, Walter Kutzner, Jay Kabatoff

- **Removed turbine bearing segments**
- **Checked turbine clearance**
- **Rotated # pole US**
- **Re-checked turbine clearances**
- **Checked for shaft rub under turbine bearing housing with 0.010 feeler taped to a 7' piece of aluminum flat bar. The 10 thou feeler is of your set of feelers Joe.**

December 08, 2004 - Alignment

Day Shift: Brent Russell, Paul Matteucci, Barry Doherty, Joe Nazaroff

- **Miced lower guide bearing journal to lower bracket housing**
- **Checked lower bracket for level with precision level and dial mounted to shaft with pointer on bearing housing top side**
- **Installed laser onto shaft and assembled perma plumb**
- **Perma plumb docking station not operating properly**
- **Problems with perma plumb lap top**
- **Covered laser with box to prevent windage on laser**

Afternoon Shift: Dorian Craft, Walter Kutzner, Jay Kabatoff

- **Brought turbine bearing segments over from P1**
- **Installed #3 cover on #2 Gen**
- **Cleaned parts**
- **Did a rotation with the perma plumb and had a data error for the final readings, also the 3 o'clock position reading was all gibbled on the screen. Maybe you guys will have better luck tomorrow**
- **P.S. One of the radio's does not work**

December 09, 2004 – Alignment

Day Shift: Brent Russell, Paul Matteucci, Barry Doherty, Joe Nazaroff

- Perma plumb re-checked and appears fine
- Rotation check #1 12-6 = -.055
  3-9 .005
- Rotation Check #2 12-6 = -.055
  3-9 = -.001
- Obtained runner band and crown clearances
- Decision made to dismantle top of generator for load check
- Dismantled crown, speed switch, speed sensor, slip rings, thrust pot cover
- Drained oil, removed top baffles, cooling coil
- Exposed wires to jack screws

Afternoon Shift: Dorian Craft, Walter Kutzner, Jay Kabatoff

- Removed load cell keepers and left them in the tube next to the load cell it was on
- Filled the tube with oil so that the oil is an inch and a half above the lift pump intake
- Lifted unit to make 1st load cell adjustment "Full Move" big mistake
- After 1st rotation 12-6 = 0.065
  3-9 = 0.109
- Lifted unit for second adjustment
- 2nd rotation 12-6 = -0.039
  3-9 = -0.038
- Lifted unit for third adjustment
- 3rd rotation 0.004
  -0.005
- Lifted unit for fourth adjustment
- Ran out of time for 4th rotation
- Radio's need to be charged, could not find chargers in plant

December 10, 2004 – Alignment

Day Shift: Brent Russell, Paul Matteucci, Barry Doherty, Joe Nazaroff

- **Perma plumb rotations**
- **RS/TS brakes are hanging up, check before rotations**

Afternoon Shift: Dorian Craft, Walter Kutzner, Jay Kabatoff

- **Perma plumb rotations**
- **Close on the plumb, load cells are still above 2% difference**
- **Adjustment made at 20:20, still needs to be rotated**

December 13, 2004 – Alignment

Day Shift: Brent Russell, Paul Matteucci, Barry Doherty, Joe Nazaroff

- **Perma plumb rotations – seems to be getting worse**
- **Load cells over 2% discrepancy**
- **Franz Grubba says good enough**

12-6 = -.008
3-9 = -.008

We removed the wedges and checked dials and found no movement. Re-wedged runner.
It looks like if we move U/BR .010 to TS we will be in tolerance in L/G and runner.

*** Runner seems a little high don't you think?**

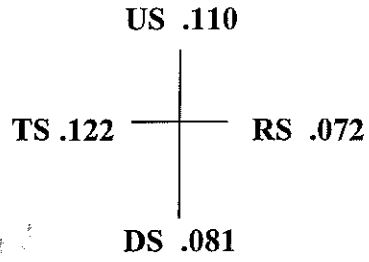
- **Installed keepers on thrust bearing**
- **Cleaned pot**
- **Tie wrapped wires**

December 14, 2004 – Alignment

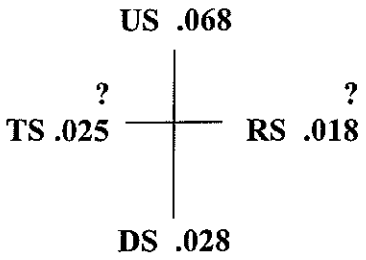
Day Shift: Brent Russell, Paul Matteucci, Barry Doherty, Joe Nazaroff

- **Confirmed Crown and Band Clearances**

Crown

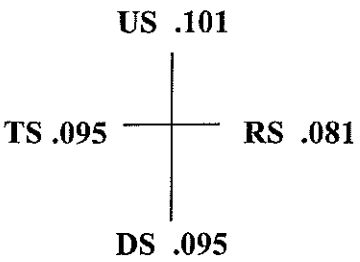


Band



- **Removed all wedges**
- **Confirmed shaft centered in UGB**
- **Wedged rotor to stator (dials OK)**
- **Wedged turbine (Dials OK)**
- **Obtained crown and band clearances (Marked measuring locations)**

Crown



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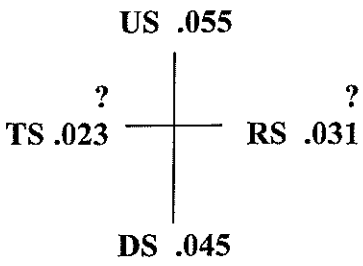
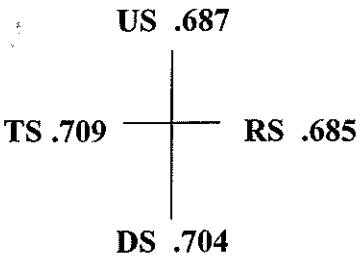
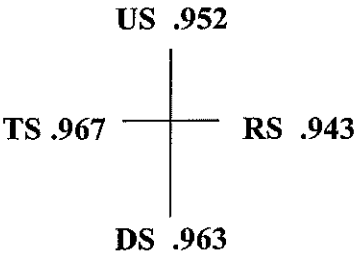


- **Miced lower guide bearing journal to housing**

Top Fit



Bottom Fit

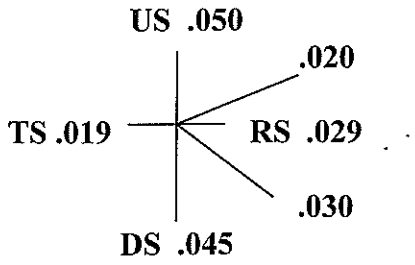


Afternoon shift: Peter Kabel, Dorian Craft, Walter Kutzner, Jay Kabatoff

Here's what we did:

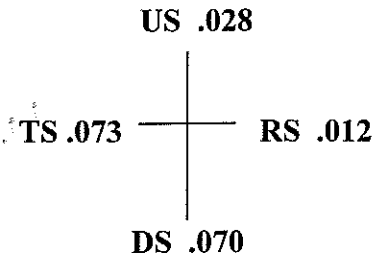
- **We reentered U/Guide .013 TS RS .013 DS US**
- **Wedged the Rotor/Stator**
- **Took feeler readings on Band**

Band



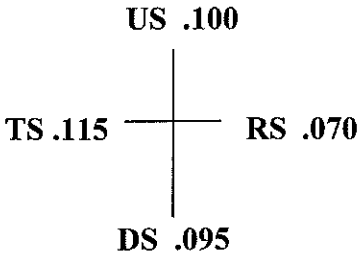
- **Put dials on Runner and wedged over for clearance**

Band



- **Checked Crown with taper gauge**

Crown



When we checked by wedging, we found that the shaft comes in contact with lower turbine seal before hitting band on RS/US. All measurements indicate that the U/BR and shaft need to move approximately .010 TS to correct some centering problem.

Let's look back:

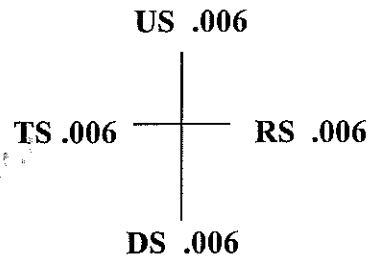
- **The band in the DS/TS area is obviously damaged, we cannot get a true reading with feeler. Never have.**
- **The .000 reading in this area was false according to our swing checks.**
- **The turbine bearing segments were low on TS and high RS which corresponds to where the shaft wants to sit.**

Either the U/BR and stator have moved since the upgrade or, I don't know.

According to our findings we think that the U/BR should be moved TS.

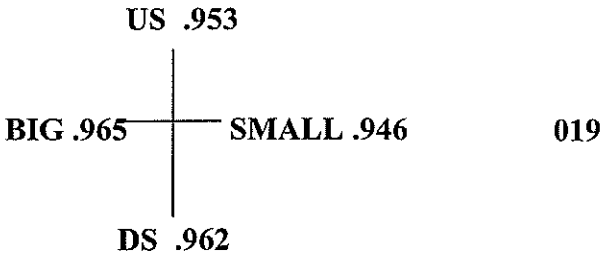
Moving the lower bracket would get the machine running but would have to be re-centered at a later date. Being that the shaft is hanging to the RS the housing would have to be shimmed past the spigot for the packing to fit.

Upper Guide

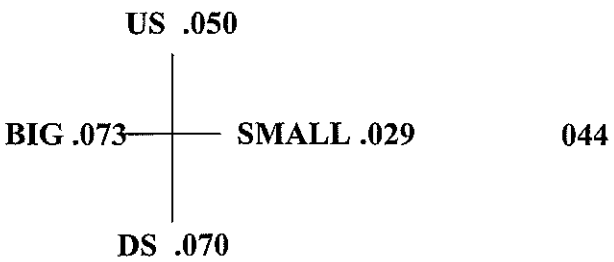


Lower Guide
Housing Shaft

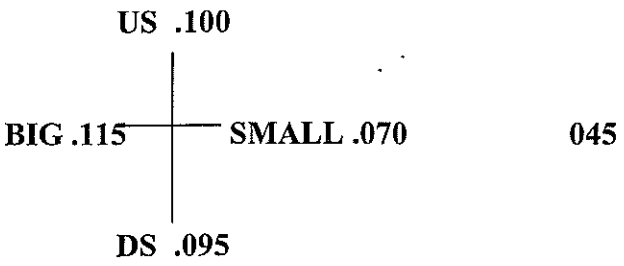
Lower Band



Band/Swing – using feelers on RS US because of T/BRG housing.

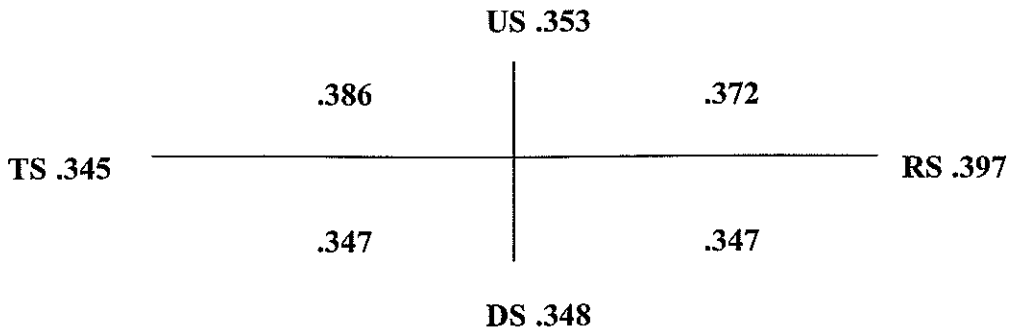


Crown with Taper gauge



The reason that I think the stator and U/BR moved is because the air gap does not correspond with the rest of the figures.

Air Gap Readings



If we move the lower bracket and re-assemble our turbine, shoes will still shoe 2 high on RS/US and 2 low TS/DS.

The shaft is not in center of the H/C and bottom ring.

Moving the lower bracket is just as much of a hassle because we need scaffolding and removing dowels is always a pain. The bracket should be left and the upper bracket should be moved to it.

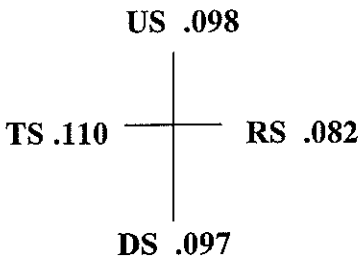
- **Ask Peter W. where the scaffolding for the pit is if we move the lower bracket. We could not find it.**

Yours truly,
Afternoon Shift

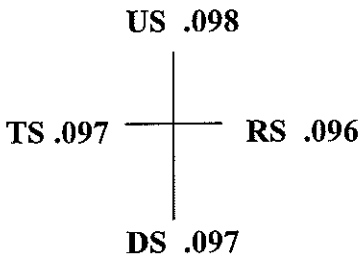
December 15, 2004 – Alignment

Day Shift: Brent Russell, Paul Matteucci, Barry Doherty, Joe Nazaroff

- **Obtained crown readings with feelers**

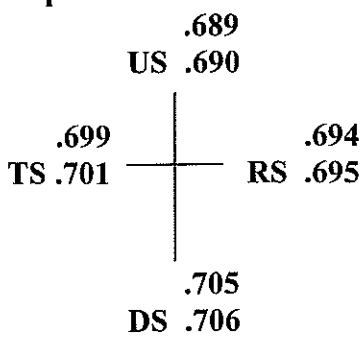


- **Centered turbine crown to head cover and wedged at band**

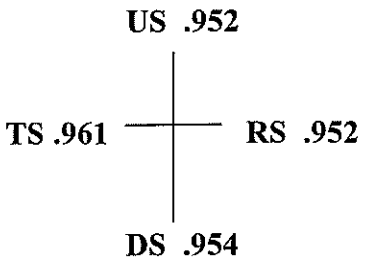


- **To achieve .014" TS move, we wedged band .022"**
- **RS dial on Generator shaft moved from -.007 to -.009**
- **Miced lower guide bearing journal to housing**

Top Fit



Bottom Fit



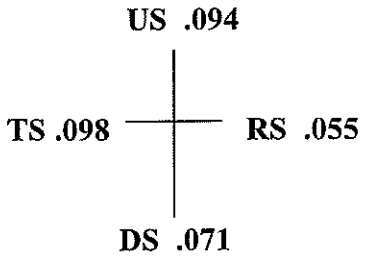
- **Centered shaft in upper guide bearing (.013 ↕ US/03)**
- **Wedged rotor to stator ? .014 ↔ RS/TS**
- **Miced at lower guide bearing journal to housing**
- **Obtained crown and band clearances**
- **Turbine looks a bit high – talked to Rob, Thor and Darcey C.**

Afternoon Shift: Dorian Craft, Walter Kutzner, Jay Kabatoff

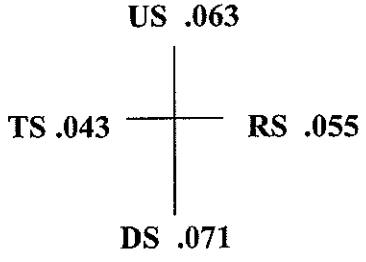
Here's what we got:

Upper guide bearing centered. We wedged runner with dials and then took a set of crown and band . We got nowhere near what your last readings were.

Crown



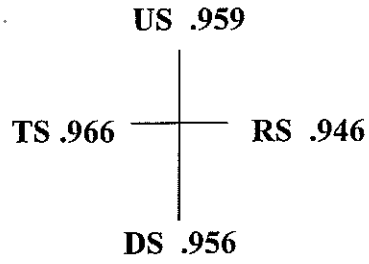
Band



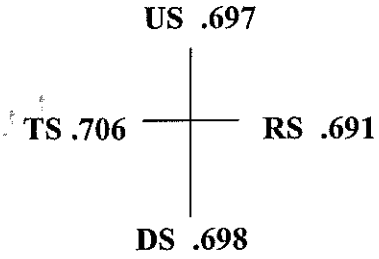
(feelers) Main Leads US

We re-measured housing and got similar readings to yours.

Lower Band



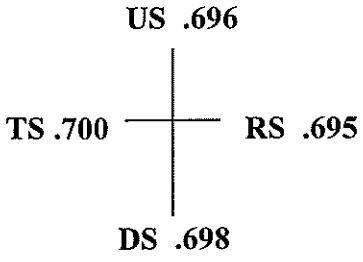
Upper Band



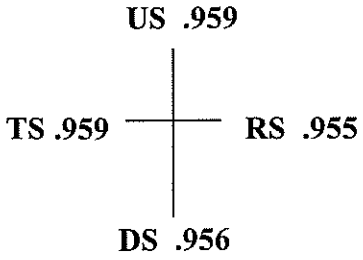
Here's what we did:

We centered the shaft in lower bracket housing
- Final Readings are:

Upper Band

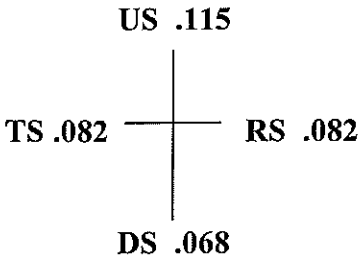


Lower Band



After centering the shaft, the crown readings are (feelers):

Crown



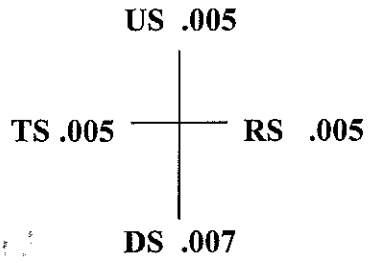
- **The shaft is wedged in turbine and 2 dials at 0 on turbine housing**
- **Shaft is center to the spigot on turbine housing for packing gland**
- **Rotated lower bearing for installation**
- **Took more air gap readings**
- **Cleaning bearing housing. Need to clean US & TS**

December 16, 2004 – Alignment

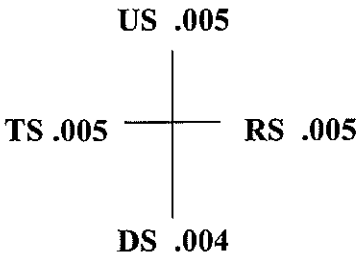
Day Shift: Paul Matteucci, Peter Kabel, Barry Doherty, Joe Nazaroff

- **Cleaned and installed lower guide bearing**
- **Checked lower guide bearing clearances (turbine wedged)**

Top



Bottom



- **Cleaned and installed lower guide bearing pot and piping**
- **Removed pit scaffold**

Afternoon Shift: Dorian Craft, Walter Kutzner, Jay Kabatoff

- **Prep turbine bearing segments for installation**
- **Prep turbine bearing housing for bearing segments**
- **Set up dials on turbine TS & US and on turbine bearing housing**
- **Installed RS, DS bearing segment**
- **Moved TS dial +.010 and US dial +.002**
- **Installed US, TS bearing segment**
- **Moved DS, RS bearing up to allow US, TS bearing to move down to center the shaft and ran into a problem**
- **US, TS bearing is 1 ¼" proud of the bearing housing and the DR, RS is 3/8" proud of the bearing housing**
- **Tried to wiggle the segments down with a bar but it didn't work**

- **Tried moving the segments up and down to see if they would move any further and it didn't work either**
- **Re-centered shaft and turbine dials, the wedges are not holding the turbine in place**
- **Left the bearing segments hanging in place pending further investigation**
- **If found that the bearing diameter is to small for the shaft maybe you could remove the brass strips on the back of the segment and mill it down the required amount???**

December 17, 2004 – Alignment

Day Shift: Brent Russell, Barry Doherty, Dale Misan, Joe Nazaroff

- **Installed TS/DS turbine segment (would not go down all the way)**
- **Removed all segments and used flapper wheel to grind brass side plates**
- **Cleaned up bearing housing scale with grinder**
- **Meeting with Rob Dunsmore**
- **Installed dials for rotation checks**

Afternoon Shift: Dorian Craft, Walter Kutzner, Jay Kabatoff

- **Rotation checks and clearances**

		0	90	180	270	360
Thrust Fit		.0	.0	.0	.0	.0
	TS	.0	+.006	+.007	+.004	+.006
Skate Thrust Bearing Collar To Tub	DS	.0	+.002	+.001	+.004	+.005
	TS	.0	+.005	+.005	+.006	+.005
U/G Dial	DS	.0	+.001	.000	+.001	+.001
	TS	.0	+.001	+.001	+.001	.000
L/G Dial	DS	.0	-.001	-.001	-.001	.000
H/G Dial Top Feeler	US	.003				.002
	DS	.011				.012
	TS	.011				.011
	RS	.003				.003
Turbine Bearing Dial	TS	.0	+.005	+.013	+.005	-.005
	DS	.0	+.006	+.002	-.011	-.003
Turbine Crown – Feeler Roundness	US	.103 *	-.112 *	.103 *	.091 *	.097 *
	DS	.082	.077	.085	.098	.092
	TS	.095	.087	.078	.090	.102
	RS	.085	.090	.102	.088	.085
Headcover Crown – Feeler Seal Roundness	US	.103 *	.112	.103	.091	.097 *
	DS	.082	.077	.085 *	.098	.092
	TS	.095	.087	.078	.090 *	.102
	RS	.085	.080 *	.102	.088	.085
Rotor Roundness		.346	.351	.345	.351	.339
Stator Roundness		.346	.386	.350	.354	.339
Check Upper Bracket Dowl Fits		OK				

December 20, 2004 – Alignment

Day Shift: Peter Kabel, Brent Russell, Brad Stykel, Joe Nazaroff

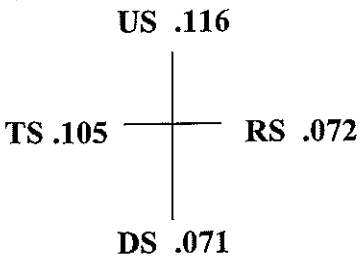
- **Centered unit in upper guide bearing and wedged rotor**
- **Wedged turbine to original dial readings**
- **Obtained crown clearances**
- **Obtained top lower guide bearing clearances**
- **Installed turbine bearing segments**

December 21, 2004 – Alignment

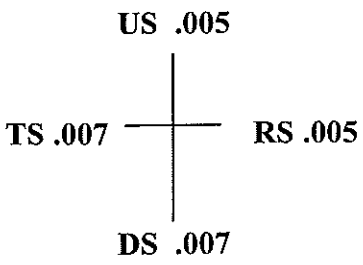
Day Shift: Peter Kabel, Brent Russell, Brad Stykel, Joe Nazaroff

- **Completed turbine bearing assembly**
  - **¾" key steel under collar**
  - **¾" shim required under stuffing box**
- **Installed dust shroud on lower guide**
- **Cleaned out scroll case**
- **Hooked up to cooling coils for morning**
- **Installed generator covers**

Final Crown readings:



Final Lower Guide Bearing readings:



December 22, 2004 – Alignment

Day Shift: Peter Kabel, Brent Russell, Brad Stykel, Joe Nazaroff

- **Installed cooling coil**
- **Installed baffles**
- **Installed oil pot covers**
- **Installed crown and speed switch**
- **Inspected scroll case and cleaned out**
- **Close scroll case door**
- **Pressurized governor**
- **Back flood from G3**
- **Removed draft tube gates**

December 23, 2004 – Alignment

Day Shift: Peter Kabel, Brent Russell, Brad Stykel, Joe Nazaroff

- **Closed scroll case drain**
- **Raised headgates and flooded**
- **Preformed ½ hour mechanical run**
- **Unit on line and monitored bearing temperatures**
- **Plant clean up**

December 15, 2004

P3 U2 Air Gap Readings on the bottom of the Rotor.

Bottom Static

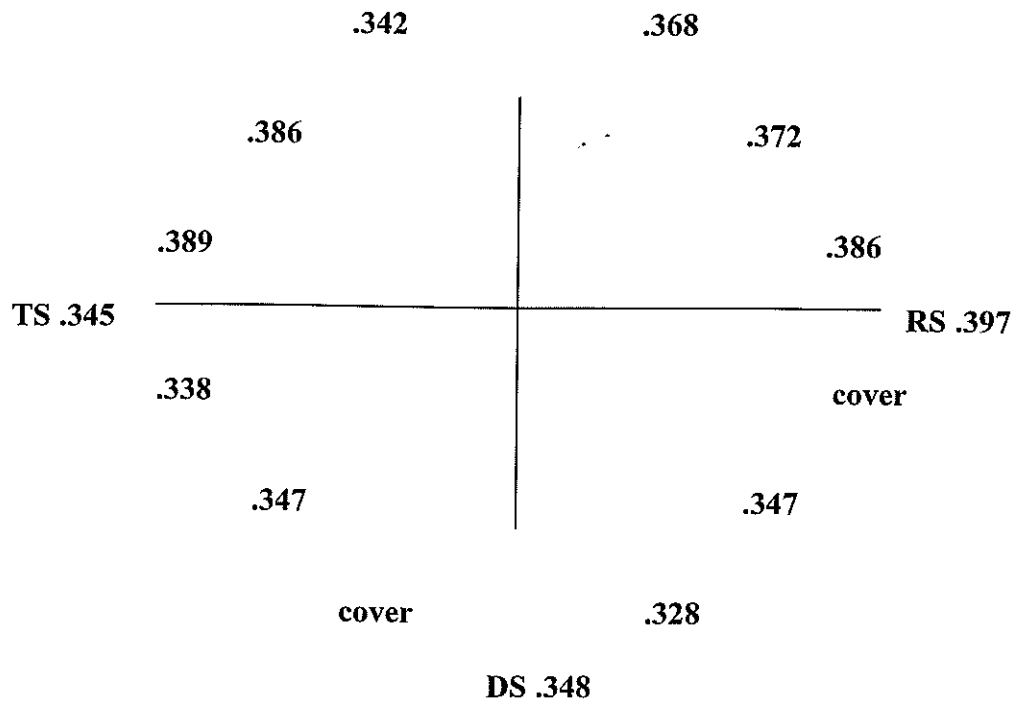
US .356

December 15, 2004

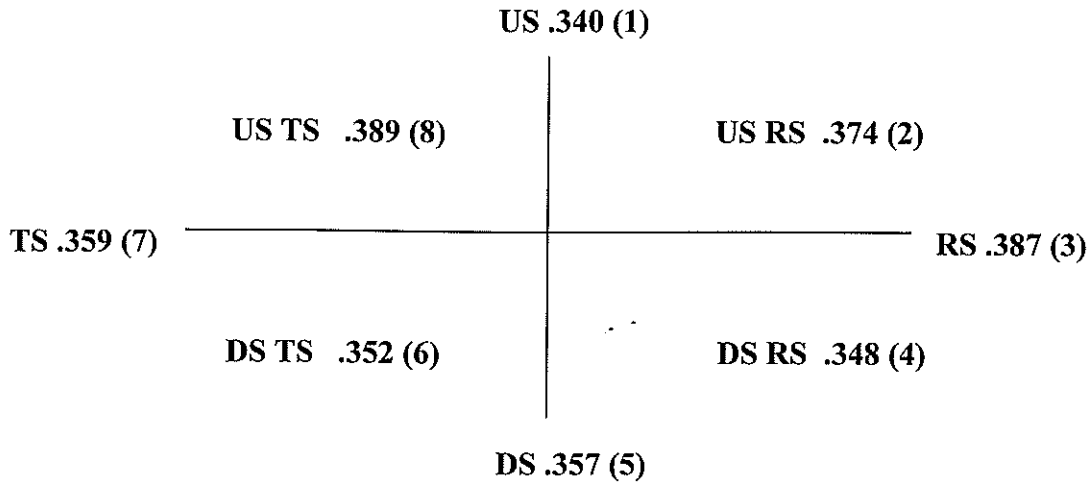
Air Gap Readings – Afternoon Shift

Top Static

US .353



Pole #63 08/01/01 (SH) Top Only
Stator Air Gap



Rotating: Use Pole #63 **Static**

1) .340"	#1	.329"	70) .345	US Split
2) .374"	#12	.380"	2) .330	
3) .387"	#20	.325"		
4) .348"	#30	.345"	24) .340	RS/DS Split
5) .357"	#38	.355"	26) .350	
6) .352"	#50	.345"		
7) .359"	#58	.390"	48) .342	TS/DS Split
8) .389"	#66	.365"	50) .345	

P3 U2 PLUMBNESS REPORT

Move #19 December 13, 2004 11:30

22:19:36 PLUMB.EXE VERS 1.5, COPYRIGHT 1990, LUDECA, INC. 1/4/1980

P3U3 After Upgrade Jan 2001
Data file Date: 01/05/1980 00:56:20

Lens Constant	**=14.49 in.**
Laser to Mirror	**=10.00 in.**
Effective length	**=24.49 in.**

RAW DATA:

		Mils	Std Dev
12:00	X:	-0.8	0.39
	Y:	0.6	0.20
3:00	X:	-0.5	0.35
	Y:	0.5	0.24
6:00	X:	-0.2	0.43
	Y:	0.1	0.20
9:00	X:	-0.8	0.24
	Y:	0.3	0.20

RESULTS

Plane	Actual	Targets	Tolerances	
12:00-6:00	-0.008	0.00	0.021	Mils/inch
3:00-9:00	-0.008	0.00	0.021	Mils/inch

Adjustment Name	Dist. in.	12 or 6 MOVES mils		3 or 9 mils	
---	---	---	---	---	---

Pad Corrections, Clockwise from TOP

#	Degrees	Correction
1	30.0	0.0
2	90.0	0.1
3	150.0	0.3
4	210.0	0.5
5	270.0	0.5
6	330.0	0.2

P3 U2 PLUMBNESS REPORT

December 9, 2004 9:00am

22:19:36 PLUMB.EXE VERS 1.5, COPYRIGHT 1990, LUDECA, INC. 1/4/1980

P3U3 After Upgrade Jan 2001
Data file Date: 01/04/1980 22:15:55

Lens Constant	**=14.49 in.**
Laser to Mirror	**=10.00 in.**
Effective length	**=24.49 in.**

RAW DATA:

		Mils	Std Dev
12:00	X:	-0.1	1.22
	Y:	0.6	8.03
3:00	X:	1.3	0.20
	Y:	-0.8	0.83
6:00	X:	-0.4	1.02
	Y:	-1.8	1.10
9:00	X:	-1.7	0.87
	Y:	-0.6	3.66

RESULTS

Plane	Actual	Targets	Tolerances	
12:00-6:00	-0.055	0.00	0.021	Mils/inch
3:00-9:00	-0.005	0.00	0.021	Mils/inch

Adjustment Name	Dist. in.	12 or 6 MOVES mils		3 or 9 mils	
----------	--------	----------	---	---------	---

Pad Corrections, Clockwise from TOP

#	Degrees	Correction
1	30.0	0.1
2	90.0	1.3
3	150.0	2.4
4	210.0	2.3
5	270.0	1.1
6	330.0	0.0

P3 U2 PLUMBNESS REPORT

14:35:8 PLUMB.EXE VERS 1.5, COPYRIGHT 1990, LUDECA, INC. 1/7/2001

P3U3 Final plumb after Upgrade Jan 2001
Data file Date: 01/07/2001 14:32:30

Lens Constant	**=14.49 in.**
Laser to Mirror	**=10.00 in.**
Effective length	**=24.49 in.**

RAW DATA:

		Mils	Std Dev
12:00	X:	16.5	0.12
	Y:	9.7	0.31
3:00	X:	16.6	0.16
	Y:	9.1	0.31
6:00	X:	16.5	0.16
	Y:	8.8	0.24
9:00	X:	16.8	0.16
	Y:	9.1	0.12

RESULTS

Plane	Actual	Targets	Tolerances	
12:00-6:00	-0.006	0.00	0.021	Mils/inch
3:00-9:00	-0.000	0.00	0.021	Mils/inch

Adjustment Name	Dist. in.	12 or 6 MOVES mils		3 or 9 mils	
----------	--------	----------	---	----------	---

Pad Corrections, Clockwise from TOP

#	Degrees	Correction	Load MV
1	30.0	0.0	6.7
2	90.0	0.1	6.7
3	150.0	0.3	6.8
4	210.0	0.3	6.6
5	270.0	0.1	6.9
6	330.0	0.0	6.7

FORTISBC

NOTES

Attending:	
Sarah Kahn – PIAC (SK)	Mark Warren - FBC (MW)
Russ Leslie – Nelson Hydro (RL)	Keith Veerman – FBC (KV)
Andrew Pape-Salmon – MEMPR, (11:15 arrival)	Brian Parent – FBC (BP)
Richard Tarnoff – NRI (RT)	Penny Cochrane – Willis Energy Services
Darla Simpson – Destination Conservation (10:30 arrival) (DS)	Dominique Ramirez – Willis Energy Services
Kim Jones – FortisBC (FBC) (KJ)	
On the phone:	*Absent:*
Fred Marsh – Kootenays (FM)	Eileen Cheng, BCUC
Al Wait – Boundary (AW)	
Buryl Slack – South Okanagan (left call 9:45 a.m.) (BS)	

1. Roundtable Introductions

RL: Municipal utilities representative
RT: Natural Resources Industries & Hedley Improvement District representative
SK: BC Public Interest Advocacy Centre
FM: Kootenay service area; Fred has been active in DSM with FortisBC since PowerSense inception and Fred participated on one of the first customer advisory panels.

PowerSense Management Transition

a. Organizational restructuring: Mark Warren is now Director of customer services. His DSM Credentials are low household electricity bills. He does have a BlueLine monitor and his family is involved in monitoring electricity use.
b. Brian Parent has been working with the Regulatory Department over the last year and is now permanently assigned to that department. Many thanks to Brian for his 15 years of service to DSM and for training his successors.
c. Keith Veerman is welcomed back from Ministry of Energy and Petroleum Resources (MEMPR), where he was working on energy policy matters. Prior to this secondment and since 1997, Keith was the PowerSense DSM engineer. He has now become the PowerSense Manager.

2. 2006 December 31 Semi Annual DSM Report – draft sent to Committee

- Total savings for the year were at 113% of plan while costs were close to plan
- An area of performance note is the residential sector, at 10.9 GW.h or half of the annual savings total. The heat pump program was non-existent in the 90's, yet the levels of efficiency achieved and customer acceptance are very impressive.
- 2006 partnership with NRCan and MEMPR was for an advertising program. As a result targets were exceeded by 18%. FBC is the only utility in BC that has a heat pump program.
- 2006 new home program savings target was not achieved and upon investigation, it appears that the time lag between signing up for the program and occupancy for multi-unit housing projects shifts the delivery of savings into the next calendar year.
- General Service and Industrial targets and achieved savings tend to be stable. Targets based on FortisBC Efficiency Potential Review.

2006 Financial Results Summary

The benefit/cost ratio was 1.8 and comparable to other years.

FORTISBC

NOTES

3. Incentive Calculation Methodology

Reviewing the incentive calculation:

- Program expenditures for consideration in the incentive calculation are capped at 110% of plan.
- If expenditures are greater than 110% of budget, then savings are prorated based on the portion of total spending represented by the 110%.
- Adjusted net benefits are compared to plan net benefits.
- 2006 did not have overspending
- Range of incentive amounts:

SEND TABLE RANGE AND DETAILED INCENTIVE CALCULATION METHODOLOGY TO COMMITTEE.

RL: Need detail on how it is derived

NEED COMMITTEE ACCEPTANCE OF 2006 INCENTIVE AMOUNT.

BS: Accepted the amount.

4. 2007 June 30 Semi Annual DSM Report

FINALIZE DRAFT REPORT AND SEND TO COMMITTEE.

2007 Program Activity to date

1. Programs came charging out the gate. MURBs tend to be very "lumpy" in that large amounts of savings are acquired periodically as projects complete, rather than a smooth acquisition of savings from several smaller projects finishing at different times. This lumpiness accounts for the lower than plan results for the New Home Program in 2006 and the higher that the plan results in the first six months of 2007. predicted in 2006 not done till 2007
2. More reticent developers are now participating in PowerSense and installing Low E windows.
3. Another developer is finally onboard and has called PowerSense to enquire about extending their geoexchange loop to other projects. Depending on how many services they provide, they could be considered to be a public utility. BCUC response indicates that they would be considered a Public Utility. It is likely they will want to file a BCUC application for exemption under the BCUC Act. Administrative challenges remain and the BCUC has indicated that they will expedite the exemption process.
4. At Big White there is more builder activity involving ground source heat pump systems, Low E windows, and efficient lighting in their designs. This is a move away from the traditional electric baseboard heat.
5. General Service customers that have participated in the past are likely candidates to continue to improve their efficiency. The Penticton Hospital retrofit in 2006 and School District 23 lighting retrofit are good examples.
6. Industrial customers with compressor loads are benefiting from the Nirvana technology, a variable speed compressor that matches the load. Variable speed technology is common in other applications and compressor loads are also an excellent application.
7. A large industrial customer site is under new ownership. To meet cooling requirements they have installed heat exchangers to capture waste heat from effluent instead of adding more settling ponds with additional spraying equipment.

5. 2008 Capital Plan

2008 plan expenditures are from the business plan filed in 2006. The DSM plan may require changes in order to meet the aggressive goals set by the BC Energy Plan. Program delivery may include coordinated and possibly integrated programs with other utilities and government agencies.

New for 2008:

Compact Fluorescents:

FortisBC wants to update the promotion of CFLs. Ideas include:

- Strategic Giveaway; e.g. porch light with a different kind of CFL. Wanting to target customer sectors that are not well served.
- Media Blitz, to focus on a specific period of time. May or not provide rebates during that time.
- Specialty bulbs, dimmable CFLS, 3-way bulbs; scanner rebate at the point of sale, in cooperation with BC Hydro. Promotion planned to roll out this fall.
- With regards to CFL disposal, the Central Okanagan District Regional Waste Reduction Office has made arrangements with the **Battery Doctors** to offer recycling and safe disposal of fluorescent light bulbs. The service is offered to residents and small businesses at no charge.
- Evaluation plan will be needed to present approach and methodology for determining savings that can be attributed to redesigned program.
- Lighting baseline is expected to change as legislation is approved to outlaw the incandescent light bulb.
- More efficient or new application CFL technology may be replacing existing CFLs.
- In general, direct energy savings benefits are not attributed to information and education programs.
- In the absence of hard-wired savings, the evaluation of education program benefits must consider the market effects and influence of the program. Given market evaluation results, it is possible then to attribute a portion of the market changes to program benefits.

CFL PROGRAM UPDATE BUSINESS CASE, INCLUDING EVALUATION PLAN TO BE PREPARED FOR THE COMMITTEE'S FIRST MEETING IN 2008.

RT why not work with retailers with info signs/displays.
KV: Fall 2007 campaign is with Save-On Foods. And Home Hardware has always been a good promoter of CFLs.
Idea: SHELF PLAQUES can provide effective product identification and make it easier for customers to quickly identify

Education and Information Programming

PowerSense has pursued hard-wired savings throughout its programming history. While cost-effective savings have accumulated and program delivery has become efficient, survey results show that customers are unaware of FortisBCs role as a leader and champion of efficient energy use.

Considered in the light of the 2007 BC Energy Plan's ambitious targets and actions, increased savings and efficiency improvement will rely in part on increasing the ramp up rate of utility DSM programs. Quickly increasing program participation means that more customers need to be aware of PowerSense and the options available to improve and manage energy use. In short, to maximize

the return on PowerSense for all ratepayers, FortisBC must be seen by its customers as the "go to" source and facilitator to reduce energy use and improve use efficiency.

Such an outcome is consistent with FortisBCs desire to be recognized by its customers as a leader in demand side management.

RT: As energy efficiency becomes mainstream, how are savings to be counted?

- Energy savings are recorded in the year they are "installed" and the economic analysis considers the lifetime of the savings in determining the savings benefits. So the life savings of the "installs" prior to regulation have been captured and there is no impact of legislation that occurs after the installed date of the savings.

- Programs will continue to incorporate efficient technologies that exceed the code. Demand for efficiency will drive technology development and as regulation picks up DSM technologies, the more efficient technologies will be added to the program mix. As an example the efficiency improvement that we have seen between incandescent and fluorescent lighting fixtures is expected to be less than the improvement expected between CFLs and LEDs (light emitting diodes).

- FortisBC program rebates cease once legislation is in place. For example, the Energy Star Windows program ends in 2008 as regulation comes into effect at the beginning of 2009.

6. PROGRAM INITIATIVES

EDUCATION

WebInfo Centre

SD 67 (Penticton Skaha School District)

- Follow up to the information presented during the November 3rd and 7th 2006 conference calls, a proposal from GRESworld was accepted by FortisBC and the WebInfo Centre was installed for the Penticton Skaha School District during Spring 2007. FortisBC logo is on front screen; Web address is www.gresworld.com/SD67.
- WebInfo Centres are being installed at several sites across North America.
- Potential for future coordination and synergy with FortisBC website
- Electronic access available to resource accounting and utility billing data
- Website has section for teacher resources (recommended readings, links to videos, curriculum aids).
- Links for student resources.
- Curriculum base to be determined.
- Look for opportunities to synergize with Destination Conservation (DC).
- The meters shown on the web page report the average rate of monthly consumption in 2006. Real time consumption data could be made available by installing electronic pulse meters and web communication capability.
- Cost of the installation and one year's update of utility billing information was $8,000, well below bid and expected cost for future WebInfo Centre sites.
- WebInfo developers designed Destination Conservation nationally. Looks like WebInfo complements DC.

Destination Conservation (DC) Update – Darla Simpson, Pacific Resource Conservation Society

- DC places more emphasis on content learning and the hands-on training portion while GRES provides use and cost data along with information that provides energy and water actual use feedback to the schools. This data can be used to track and verify savings and demonstrate the results of projects and changes in staff and student behaviour, for the purpose of reducing overall energy.
- The custodian, teacher, administrator, students, and parent leader comprise the DC Team.
- DC provides professional learning for teachers, along with learning opportunities for students.
- The students design the program and drive the activity at the school level, with teachers facilitating.
- Parent leader is important, particularly in elementary schools.
- DC is a three year program; energy in year 1, water in year 2, and waste in year 3.
- Students are starting with higher level of awareness.
- DCs strength is the face to face work and site visits. Continuous follow up with regular email and phone contact also helps to maintain the school districts' attention.
- Since FortisBC has signed on to DC, all school districts in the service area have contacted DC.
- Kelowna has signed up 13 schools so far. Penticton has had 12 schools sign up so far.
- Creston/Nelson School District is keen to sign up for September 2008.
- The school district administration sign up for DC but it is up to individual schools to volunteer to participate in the program. DCs cost-recovery number of schools is 11.
- FortisBC is hoping to include all school districts in their service area by September 2008. DC will work to have them signed on by September 2008.
- Kootenay-Columbia School District (20) is initiating an efficiency project with NRCan funding. Project completion is August 2008 and both the WebInfo centre and DC could be positioned to start up in September 2008.

Funding Contributions to Schools Program

There is a current arrangement with Terasen Gas for funding of DC in school districts located in the FortisBC service area. Terasen Gas pays for the first year of the DC program and FBC will pick up the second year costs. This arrangement will apply to the Central Okanagan and Penticton Skaha School Districts' DC programs.

There is some uncertainty about DC sign-up for school districts for a September 2008 start. Arrangements with Terasen Gas need to be reconfirmed for 2008 and FBC may want to accelerate education program activity in 2008. The DSM Advisory Committee accepted the principle of establishing an education fund in 2006 for the purpose of developing an FBC education program. Any proposed spending from this fund will be in addition to the 2008 Capital Plan budget filed. A draft business plan for the proposed spending will be submitted to the DSM Advisory Committee for review before filing with the BCUC for approval prior to any public commitment by FBC.

Non-funding Contributions to Schools Program

- FortisBC would like to know what contributions-in-kind could be made to a school program.
- Monitoring assistance (providing a monitor for projects). CFL light bulbs provided for learning about energy efficiency in the home.
- As part of DC, a Wish List is prepared. Students select physical things for their programs or request assistance or opportunity to help with new technologies or program implementation.
- FortisBC representatives are welcome to attend and participate in DC workshops.

- DC covers the cost of teachers' time for participating in DC outside the classroom.
- Water districts may be interested in contributing to DC (Nelson), given the DC focus on water conservation.
- DC has not approached independent schools in the past. The challenge for them is the monitoring needed. If FortisBC can do that, it would be easier for them to participate.
- The Energy Plan includes education as a means of meeting its targets, but there is no money available from the provincial government for an energy education program. Ministry of Education is developing curriculum for Grades 10 and 11. FortisBC may want to become directly involved with Ministry of Education for these matters. BC Hydro is.
- Ministry of Energy would be glad to designate FortisBC as Okanagan regional expert on energy efficiency to the Ministry of Education - contact Wael Afifi (Wael.Afifi@gov.bc.ca).

DS TO PROVIDE DATES OF WORKSHOPS; POWERSENSE TO CHECK FOR STAFF AVAILABILITY.

EDUCATION PROGRAM EXPANSION PLAN, INCLUDING EVALUATION PLAN TO BE PREPARED FOR THE COMMITTEE'S FIRST MEETING IN 2008

DEMAND REDUCTION

Hedley Improvement District Update

- Water districts with reservoirs have potential for capacity reduction by scheduling pumps.
- In October 2006 Paradise Controls was hired to install a control system to turn off the pumps during FortisBC peak times (morning and evening)
- System was also designed to ensure that the reservoir levels met fire protection requirements.
- The results show that off peak only pumping has maintained the reservoir at satisfactory levels.
- The Improvement District continues to pay a regular tariff. Comparing that to the Time of Use rate to determine the value of not consuming during the peak shows bill reductions which could have occurred.
- Data collection from the system has been sporadic to date. FortisBC will work with the Improvement District to install monitoring software on the District's equipment, to provide regular downloads. The continuous data collection will allow better analysis and determination of the controls system's impact on peak demand. FortisBC will consider installing a Time of Use Meter also, to track billing determinants.
- A power use baseline is needed before it can be determined if the program can be expanded. Hedley Improvement District will assist FortisBC to identify a similar water district whose demand could be monitored for a year to collect the energy use information for a pumping system without controls.
- As a pilot project, FortisBC paid for the pump control system. Any program that is established would offer incentives for the customer to install the control system.

FORTISBC TO NEGOTIATE WITH THE IMPROVEMENT DISTRICT BOARD FOR THE DISPOSITION OF THE CONTROL SYSTEM.

POWER MONITORS

BlueLine Results

- Survey of participants completed in July by FortisBC.

- Responses revealed that those folks familiar with energy supply and utility matters experienced quick decline in interest, while other households were interested in learning about the implications of their household energy use and activity on the reported meter data.
- As well, about a dozen monitors have been installed in response to customer high-bill complaints.
- Of the 4 monitor's installed as a trial, one had to be replaced and one had to be repaired within the 6 months.
- RL has contacted Itron and they are sending a monitor that can be read remotely via radio.
- The units may not have been calibrated. It was found that in testing a monitor continued to register 400 W even when the breaker panel was disconnected.

Disposition

- Need for additional trials or a pilot project is minimal given FortisBC intention to submit to the BCUC an application for a Certificate of Public Convenience and Necessity for an Automated Meter Information project. The application will be for 100% deployment.
- MEMPR, as sponsor of the power monitors, is not interested in returned meters.

Committee Input for disposition of Monitors

- There may be opportunities at the schools, as part of the DC workshop that talks about Demand Reduction.
- Possibility of doing employee give-away.

Conservation and Rate Design Discussion

- AMI technology can enable innovative rate design, such as critical peak pricing, load control, and curtailable load.
- Time of Use load control may need to be staggered to avoid load pickup spikes and simply shifting the same peak to a later hour.
- It is believed that stepped rates, where the energy supplied at the second step is at a higher price than the first step, will induce conservation.
- Current situation is that technology is being adopted before rates have been designed. It should be the other way around.
- FortisBC's view is that current meters and technology do not support innovative rates.
- However rates are about recovering costs and objectives of rate design are independent of technology.
- It is not known what the impact of large price signals will be on conservation.
- BC Hydro plans to meet their DSM targets with 1/3 from rates, 1/3 from DSM, and 1/3 from codes and regulation.
- Princeton Light & Power's successful peak demand reduction program combined several features of DSM program design, including information and customer feedback, event notice, technology solution, rate signal, and published program monitoring reports.
- Customers are receiving inconsistent messages from agencies and utilities. As an example, the home insurance industry may soon require the installation of larger electrical services (200 amp instead of 100 amp) to avoid overloading single family household circuits.

Community Heating Business Case

- After briefly reviewing community heating opportunities for geoexchange systems, by looking at installed and planned projects, and recognizing the expertise required to install, operate, monitor facilities, and manage environmental risk, FortisBC decided not to pursue preparation of a business case.
- Nelson Hydro has taken the same approach. Community heating systems are another utility service and should face their own regulation.

- As a FortisBC customer, Nelson Hydro would not want to be paying FortisBC to operate the geoexchange loops.
- Customers need to ensure that the company they are dealing with is of a reputable nature. FortisBC can help by supporting the industry with rebates that rely on independent project reviews of commercial sites.

WEATHER SENSITIVE MEASURES

- Review has begun in response to BCUC request in Order G162-06 (2007 Revenue Requirement) for load profiles of weather sensitive savings measures.
- The original notion, discussed as part of the 2004 Annual Review, was that space heating efficiency measures provided capacity savings during the winter only and therefore were less valuable on an annual basis, according to Rate Schedule 3808.

PREPARE ANALYSIS AND FINDINGS REPORT FOR FILING WITH THE BCUC BY OCTOBER 31, 2007

7. BC Energy Plan – Andrew Pape-Salmon, Acting Director, Alternative Energy Branch, Ministry of Energy, Mines, and Petroleum Resources

- Please see Appendix A.

8. Next Steps and 2008 Schedule

- Comments back to MEMPR on several topics: environmental costs, evaluation methodology, provincial CPR study; FortisBC could put together a high-level delivery proposal for MEMPR, hear back more from the Advisory committee about the 50% conservation target; codes and standards, participation in labeling program.
- Investigate co-branding with NRCan/Vampire Power, or other similar programs.
  - MW: NRCan handout is too big.
  - APS: Simplified way of running a contest. E.G. If customer signs up online, then they receive a powerbar.
  - RL: spending should be capped.
  - KV: NRCan handout is too detailed and could be summarized for *PowerLines*.
  - DS: Bigger bang for your buck (more energy savings)…provide 6 hot tips to customers who sign up online; if customer completes all 6 tips, then they are eligible to win a free dinner.

ACTION ITEMS

a. Send table range and detailed incentive calculation methodology to committee.
b. Need committee acceptance of 2006 incentive amount.
c. Finalize draft June 30, 2007 Semi-annual Report and send to committee.
d. Compact fluorescent light program update business case, including evaluation plan to be prepared for the committee's first meeting in 2008.
e. DS to provide dates of workshops; PowerSense to check for staff availability.
f. Education Program expansion plan, including evaluation plan to be prepared for the committee's first meeting in 2008.
g. FortisBC to negotiate with the Improvement District Board for the disposition of the control system.
h. Prepare weather sensitive measures impact analysis and findings report for filing prior to October 31, 2007.

i. Domestic hot water controllers pilot project plan – identify developers who would be willing to pilot this project in 2008.

MEETING SCHEDULES AND COMMITTEE MEMBERSHIP ADDITIONS

a. How often to people want to meet?

Comment:	Would like to have more dialogue with Committee Should have more feedback from Committee Semi-annual would be better than quarterly Support for fewer longer meetings, as opposed to more frequent shorter meetings

b. Suggestions for new Advisory Committee Representatives?

Comment:	Construction/Development (UDI) Environmental (BC SEA) First Nations

c. Amendments may be needed to the Committee's Terms of Reference, which are submitted to and approved by the BCUC.

d. Tentative Date of Next Meeting: Thursday, October 18.

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FORTISBC

FORTISBC INC.

SEMI-ANNUAL DSM REPORT

SIX MONTHS ENDED JUNE 30, 2007.

Issue date:
October 23, 2007.

Table of Contents

Report Objective:

This report provides highlights of the Company's Demand Side Management ("DSM") programs for the six months ending June 30, 2007. The presentation format compares actual energy savings and costs to plan, provides a statement of financial results and details the estimated DSM incentive for the period.

Executive Summary:

Energy efficiency savings for the first six months of 2007 were 17.7 GW.h, or 162% percent of the plan of 10.9 GW.h for the same period. Year to date costs were $1,437,000, or 116% of the plan $1,237,000. The Total Resource Benefit/Cost ratio for the period was 2.0.

Energy Savings per Sector:

	YTD Plan GW.h	Actual	% of Plan Achieved
Residential	5.3	9.6	181%
General Service	4.6	6.4	139%
Industrial	1.0	1.7	170%
Total savings (GW.h)	**10.9**	**17.7**	**162%**

The Residential, General Service and Industrial sectors all exceeded their energy savings target by a large margin.

Detail of Energy Savings:

Residential Programs:	YTD Plan GW.h	Actual	% of Plan Achieved
HIP/Watersavers	0.3	0.4	133%
New Home Program	0.8	1.8	225%
Heat Pumps (Air & Ground Source)	3.1	5.6	181%
Residential Lighting	1.1	1.8	164%
	5.3	**9.6**	**181%**

***** HIP is the abbreviation for the Home Improvement Program

The residential construction and renovation activity is still brisk, and all programs exceeded plan expectations. In the New Home program, there were 351 single family and 334 multiple unit participants compared to 201 and 76 respectively for the same period in 2006. There were 420 participants in the Air Source Heat Pump program compared to 274 for the same period in 2006.

General Service Programs:	**YTD Plan GW.h**	**Actual**	**% of Plan Achieved**
Lighting	1.5	2.1	140%
Building and Process Improvement	3.1	4.3	139%
	4.6	**6.4**	**139%**

The General Service sector recorded savings of 6.4 GW.h, 139% of plan to June 30, 2007. Larger projects included savings of 0.6 GW.h for a lighting upgrade at the Penticton regional hospital, two 0.6 GW.h geoexchange projects in Summerland and Kelowna, and 0.3 GWh for HVAC upgrades under a performance contract at the Central Okanagan school district.

Industrial Programs:	**YTD Plan GW.h**	**Actual**	**% of Plan Achieved**
Compressed Air	0.4	0.1	25%
Industrial Efficiencies	0.6	1.6	267%
	1.0	**1.7**	**170%**

The Industrial Efficiency program achieved savings of 1.6 GW.h, well in excess of the plan of 0.6 GW.h. This was largely attributable to savings of 1.2 GW.h at the Castlegar pulp mill where the installation of a heat exchanger negated the need for three 75 HP pump motors for the cooling spray ponds.

Program Costs:

Summary of Costs by Sector

	YTD Plan	**Actual**	**% of Plan**
Sector:	**$'000**		
Residential	602	798	133%
General service	363	404	111%
Industrial	85	115	135%
Planning & Evaluation	187	120	64%
	1,237	**1,437**	**116%**

Costs amounted to $1,437,000, or 116% of plan to June 30, 2007.

Costs per Sector:

Residential	YTD Plan	Actual	% of Plan
	$'000		
H.I.P./Watersavers	49	54	110%
New Home Program	212	327	154%
Heat Pumps (Air & Ground)	256	343	134%
Residential Lighting	85	74	87%
	602	**798**	133%

The cost of Residential programs was $798,000, 133% of plan. The largest cost component of Residential programs is the Heat Pumps Program followed by the New Home Program. Incentives paid to participants amounted to $616,000 during the period, $219,000 over plan. This directly relates to the savings volume during the period.

General Service	YTD Plan	Actual	% of Plan
	$'000		
Lighting	128	112	88%
Building and Process Improvement	235	292	124%
	363	**404**	**111%**

Costs to June 30, 2006 for General Service amounted to $404,000 or 111% of plan. Incentives paid amounted to $173,000 and exceeded plan by 4% or $6,000. This corresponds to the savings activity within this sector which also exceeds plan.

Industrial	YTD Plan	Actual	% of Plan
	$'000		
Industrial Efficiencies	67	105	157%
Compressed Air	18	10	56%
	85	**115**	**135%**

Industrial sector costs were $115,000 for the period, 135% of plan. Incentives paid during the period amounted to $74,000, $46,000 in excess of plan, driven by savings which were 170 % of plan.

Financial Results:

FINANCIAL RESULTS for the Six Months ended June 30, 2007

Financial Results by Program ($'000)

Program	Program Benefits	Program Costs	Planning & Evaluation Costs	Customer Costs	Total Costs	Benefit Cost Ratio
Residential						
H.I.P./Watersavers	165	54	3	14	71	2.3
New Home program	896	327	12	83	422	2.1
Heat Pumps	2,200	343	38	811	1,192	1.8
Residential Lighting	464	74	12	(3)	83	5.6
Residential Total	3,725	798	65	905	1,768	2.1
General Service						
Lighting	790	112	14	135	261	3.0
Building and Process Improvement	1,646	292	29	620	941	1.7
General Service Total	2,436	404	43	755	1,202	2.0
Industrial						
Industrial Efficiencies	529	105	11	170	286	1.9
Compressed Air	16	10	1	7	18	0.9
Industrial Total	545	115	11	177	303	1.8
Total	**6,706**	**1,317**	**120**	**1,837**	**3,274**	2.0

An overall Benefit/Cost ratio of 2.0 has been achieved to June 30, 2007, compared to 1.8 for the same period last year.

Residential Results

The residential sector had excellent results with an overall benefit/cost ratio of 2.1. All residential programs had very strong results. The volume in these programs is due to the brisk construction pace in the Okanagan portion of our services area.

General Service and Industrial Results

The General and Industrial financial results are also excellent with benefit/cost ratios of 2.0 and 1.8 respectively. Savings potential are identified through key customer contacts, trade ally relationships with construction consultants and lighting wholesalers, and the review of capital plans with larger customers through Partners-in-Efficiency agreements.

The general service results include a number of "return to the well" projects with institutional partners, such as the Interior Health Authority and School Districts.
Industrial results are related to process improvements, thanks to renewed capital spending under the new ownership of the Celgar pulp mill.

Assistance with Federal and Provincial Government Programs:

On March 31st, 2007 the provincial and federal governments contribution agreements, which began in late 2005, ended. The costs and funding related to the various energy efficiency initiatives in the first half of 2007, is summarized below:

Provincial Govt.Transactions, January 1 to March 31, 2007		
Expenditures recoverable:		
NHP - NRG80	Units Completed	78,500
	Units reimbursed but not completed	-87,550
HIP - Govt Gas Windows		43,314
HIP - Govt. Electric Windows		74,586
NHP - Govt Gas Windows		67,880
GSHP and ASHP recoverable		7,850
Other gas recoverable		24,161
		208,741
Amounts received for current and past activities:		
Federal		145,000
Provincial		246,676
		391,676

Where product incentives were funded, e.g. EnergyStar window upgrades the associated costs and related energy savings have been excluded from the Company's energy savings, costs and financial results in this semi-annual DSM report. Where the agreements provided additional marketing support, the Company included the incremental results in this report. A reconciliation and accounting for these activities has been performed and presented to both provincial and Federal Governments.

Incentive Mechanism:

The incentive mechanism provides for incentives based on Net Benefits being achieved beyond 100% of Base Net Benefits. The maximum benefit available is allowable on 150% of Base Net Benefits. The Residential incentive ranges from 3% to 6%, starting at the achievement of 101%

of Base Net Benefits. The General Service range is from 2% to 4% and Industrial 1% to 3%, also both starting from achievement of 101% of Base Net Benefits.

A penalty is possible if less than 90% of Base Net Benefits is achieved in any sector. There is a maximum penalty set at 50% of Base Net Benefits.

Net Benefits are defined as benefits assigned to energy and capacity savings based on avoided power purchase costs, less FortisBC program costs and customer-incurred costs pertinent to the energy savings system being installed.

The Base Net Benefits for the 2007 incentive calculation are the yearly average of actual costs, savings and benefits for the immediately preceding three year period. The costs are escalated into 2007 dollars and the benefits are calculated at an avoided cost equivalent to BC Hydro Rate Schedule 3808 for 2007.

2007 Net Benefits ($000) To June 30, 2007

Sector	Base A	Actual Adjusted* B	% of Base C	Eligible Amount D	Incentive Rate E	Incentive (D x E)
				($,000)		
Residential	678	1,624	239%	1,018	6.0%	61.1
General Service	1,149	1,220	106%	1,220	2.0%	24.4
Industrial	148	197	133%	197	3.0%	5.9
Total	1,976	3,041				91.4

Notes:

1. *Net benefits is the value of power saved less the utility and customer costs to save that power*
2. *Energy is valued at 2.82 cents per kW.h, capacity at $48.1 per annual kW, and deferred capital expenditures at $350 per kW.*

***** *Adjusted by 110% Delivery Expenditure Cap*

Actual Net Benefits to June 30, 2007 amounted to $3,432,000. For purposes of calculating the estimated incentive amount, the application of the 110% expenditure cap resulted in Actual Adjusted Net Benefits of $3,041,000, showing a $1,065,000 favourable variance over the Base Net Benefits of $1,976,000.

Based on current costs, savings and benefit calculations to June 30, 2007 an incentive of $91,400 has been calculated. This amount will change based on the performance during the second half of the year.

Appendix A DSM Summary Report BCUC Format

Demand-Side Management Summary Report in BCUC Format for the Six Months Ending June 30, 2007

Sector/Program	Utility Costs: Direct Incentives	Direct Information	Program Labour	Program Evaluation	Research Adm & OH	Total	Customer Incurred Cost	Total Resource Cost	Benefit/Cost Ratios: Societal Cost	Total Resource	Rate Impact	Levelised Cost
	$'000											
RESIDENTIAL:												
Heat Pumps	253.0	20.8	70.2	22.9	15.3	382.2	811.0	1,193.2	n/a	1.8	0.6	2.3
New Home Program	287.0	15.9	24.1	7.3	4.9	339.2	83.0	422.2	n/a	2.1	0.6	2.1
Residential Lighting	38.0	12.3	23.7	7.3	4.9	86.2	-3.0	83.2	n/a	5.6	0.9	1.2
Home Improvements Program	38.0	2.3	12.7	1.6	1.1	55.7	14.0	69.7	n/a	2.4	0.5	1.7
	616.0	51.3	130.7	39.2	26.1	863.3	905.0	1,768.3		2.1	0.6	2.1
GENERAL SERVICE												
Lighting	62.0	4.1	45.9	8.6	5.7	126.3	135.0	261.3	n/a	3.0	0.6	1.6
Building and Process Improvement	112.0	60.9	119.1	17.4	11.6	321.0	620.0	941.0	n/a	1.7	0.5	2.2
	174.0	65.0	165.0	26.0	17.3	447.3	755.0	1,202.3		2.0	0.6	2.1
INDUSTRIAL:												
Industrial Efficiencies	69.0	6.6	29.4	6.5	4.3	115.8	170.0	285.8	n/a	1.9	0.7	1.7
Compressors	4.0	0.0	6.0	0.3	0.2	10.6	7.0	17.6	n/a	0.9	0.5	4.1
	73.0	6.6	35.4	6.9	4.5	126.4	177.0	303.4		1.8	0.7	1.9
TOTAL:	863.0	122.9	331.1	72.1	47.9	1,437.0	1,837.0	3,274.0		2.0	0.6	2.1

Levelised Energy Unit Cost - Cents per kWh	2.1	Energy Savings - kWh	17,659,603
Levelised Capacity Unit Cost - Dollars per kW	122.6	Capacity Savings - kW	3,250

Weather Sensitive Savings Measures and Capacity Benefits

Introduction

BCUC Order G-162-06 requested that the Company "provide the load profile of various weather-sensitive DSM measures to demonstrate the impact on demand (kVA) and to confirm the valuation of avoided demand charges under Rate Schedule 3808".

Background

1. The DSM Technical Committee struck as part of the Negotiated Settlement process for the 2006 Revenue Requirement Application recommended two annual costs for avoided capacity, based on the weather sensitivity of the savings measure (Technical Committees' Report, filed March 22, 2006). Input to the DSM Technical Committee's recommendation were calculations of the cost of winter (4 months) and year round capacity purchases provided by the Power Supply Director (letter, March 13, 2006, included as Appendix B in Technical Committees' Report).
2. BCUC Order G-58-06 (May 2006), FortisBC 2006 Revenue Requirement Application, did not accept the recommendation and more information was presented at the 2006 Annual Review, detailing the calculation of the annual capacity savings for weather sensitive measures. In particular, the annual avoided cost of capacity was reduced by the non-winter months' capacity costs. Thus the first annual avoided cost of capacity, for non-weather sensitive measures, included 4 winter and 8 ratchet months of avoided capacity costs. The second annual avoided cost of capacity, for weather sensitive measures, was for 4 winter months only.
3. The following report has been prepared in response to BCUC Order G-162-06 (December 2006).

Response Approach

1. Investigate weather sensitive and non-weather sensitive classification of energy savings measures. What are being sought are weather sensitive savings measures that impact only the FortisBC electric system's peak season.
2. Determine those weather sensitive measures that are included in PowerSense programs.
3. Discuss the impact of the measures on the electric system peak.

Weather Sensitive Savings Measures

The California Database for Energy Efficiency Resources (DEER), sponsored by the California Public Utility Commission and the California Energy Commission, provided the reference material for reviewing the definition, classification, and demand impact of weather dependent measures.

The Database organizes measures into four areas: residential and non-residential, and within each of those: weather sensitive and non-weather sensitive. Residentail weather-sensitive measures are in two major categories: Shell and HVAC (heating, ventilation, and air conditioning). The types of measure for each category are as follows:

Residential Weather-sensitive Measures

Shell Category

1. Equipment – e.g. whole house fans
2. Fenestration – e.g. windows
3. Insulation – e.g. ceiling and floor insulation, wall insulation and infiltration reduction

HVAC Category

1. Equipment - e.g. heat pumps and air conditioners
2. Controls – programmable thermostats
3. Maintenance - duct repair and sealing, duct insulation, and refrigerant charge adjustment

Within each of the types of measure, data is organized by building type and vintage, and climate zone.

Impact on Electric System Peak

Shell Category Measures

The measure reduce need during winter and summer for heating and cooling energy during system peak periods. The savings come from improved building envelope performance and air circulation. Measures in the Shell Category are able to provide capacity savings during both the summer and winter seasons.

Capacity savings are available throughout the year and can be valued under the current planning practice. That is of valuing winter capacity (November to February) at full avoided cost of capacity under BCH 3808 and the remainder of the year at 75%

of avoided cost of capacity, representing the contribution of the measure to reducing the ratchet threshold.

HVAC Category Measures

Equipment measures reduce the need for cooling energy during summer season. Savings are assumed to come from the improved efficiency of the new or replacement equipment that is installed.

Savings from controls and maintanence are available during periods of operation. Some controls may reduce total annual operating time.

Heat Pump Installations

The equipment measure from the list above that is supported by PowerSense programming is heat pumps. Since FortisBC operates a winter peaking system, it is necessary to look at the impact of heat pump installations during the winter. The following must be considered.

1. Electric savings come from those heat pump installations that otherwise would have installed electric space heating equipment.
2. For heat pumps the practice is to undersize the capacity of the unit to be installed and to rely on supplementary heating to meet cold weather conditions.
3. Given that the system peak is coincident with outdoor conditions that are more extreme than normal conditions, it is expected that the supplementary system will be operating during electric system peak.
4. In those cases where the supplementary system is electric, for planning purposes, there are no capacity savings during system peak.

Conclusions

1. For the PowerSense portfolio of programs, there are no capacity savings that are available during only the winter season.
2. The current valuation methodology is appropriate for capacity savings throughout the year for all measures.
3. A monitoring and evaluation study would assist in refining the annual savings estimates attributable to heat pump installations and supplementary heating equipment, if applicable.

Glossary

Coincident Peak The metered or estimated demand of a device, circuit, or building that occurs at exactly the same time as the system peak for a given year.

Peak Savings – Coincident (kW)
The estimated peak (highest) demand savings (MW or kW) from a program for a specific time, date, and loation coincident with the forecasted system peak for a given specific time, date, and location coincident with the forecasted system peak for a given area and a given set of weather conditions. This estimate must also include consideration of the likelihood that the equipment is actually on at the time of coincident peak. Usage of this definition: Resource planning – for making adjustment to forecasts of peak usage for understanding reserve margins and reliability purposes.

Peak Savings – Daily Average (kW)
The average peak demand savings (kWh impact / # of hours in the peak period) for a given utility during their peak season. Usage: Cost effectiveness analysis primarily for valuing energy savings that occur during the peak period using "peak" average avoided costs.

Heat Pump
Heat pumps consist of a refrigeration system using a direct expansion cycle. Equipment includes a compressor, an air-cooled or evaporatively-cooled condenser (located outdoors), an expansion valve, an evaporator coil (located in the supply air duct near the supply fan) and a reversing valve to change the DX cycle from cooling to heating when required. The cooling and heating efficiencies vary based on the quality of the materials used, the size of equipment, the condenser type and the configuration of the system. Heat pumps may be of the unitary variety (all components housed in a factory-built assembly) or be a split system (an outdoor condenser section and an indoor evaporator section connected by refrigerant lines and with the compressor at either the outdoor or indoor location).

Design Heat Loss
A design heat loss calculation shows how much heat a home requires on an hourly basis in order to maintain a 22°C (72°F) indoor temperature on the coldest day of the year. There are standards set by the Canadian Standards Association (CSA) for minimum sizing for heat pump systems.

Ground Source Heat Pumps
The CSA C445-M92 standard for minimum efficiency levels for ground source heat pumps (GSHP) requres GSHP units to be sized such that their rated heating output capacity is 60 percent of the design heat loss. At 60%, the GSHP can meet 90% of the annual space heating load, with 10% met with supplementary heat, such as electric resistance. A unit's Heating Seasonal Performance Factors (HSPF) is determined by dividing the unit's heat output for the heating season by its power consumption for the same period. The HSPF range for the FortisBC service area for Energuide GSHPs is 7.5 to 10.9 for closed loop systems.

Air Source Heat Pumps
The CSA C273.3 standard for minimum efficiency levels at plus or minus 8.3 ºC for air source heat pumps (ASHP) requires ASHP units to be sized such that their rated heating output capacity is 65% of the design heat loss. At 65%, the ASHP can meet 90% of the annual space heating load, with 10% met with supplementary heat. The HSPF range for the FortisBC service area for Energy ASHPs is 6.6 to 8.8.

INCIDENT INVESTIGATION REPORT

PART A: IDENTIFYING INFORMATION
Identify the general incident information

TYPE OF REPORT	INCIDENT REPORT TITLE	
☐ CLASS 2 ☒ CLASS 3	**Rigging Incident**	**213-06 CLASS 3**

INCIDENT / ACCIDENT LOCATION	ORIGINATING DEPARTMENT
Waneta Generating Station	Generation

DATE OF OCCURRENCE (mm/dd/yy at hh:mm)	DATE/TIME REPORTED (mm/dd/yy at hh:mm)	REPORTED TO
11/27/06 at 2:15	11/27/06 at 2:18	Project Manager

REPORT COMPLETED BY	DATE PREPARED (mm/dd/yy)
A. Anderson / Terry Philp	12/04/06

PART B: ACCIDENT / INCIDENT INFORMATION
Identify the type of incident, any losses or potential for losses if a near hit (close call)

NATURE OF THE INCIDENT (can be more than one)

☒ Personal Injury?	☐ Equipment / Property / Process?	☐ Near Miss?	☐ Public Safety / Third Party?
☐ First Aid / Minor Injury	☐ Loss or Damage Under $5,000	☐ Potential for Losses Low	☐ System Contact, Damage or MVA
☐ Medical Aid	☐ Loss or Damage $5,000 - $10,000	☐ Potential for Losses Moderate	☐ Private Property
☒ Loss Time	☐ Loss or Damage Over $10,000	☐ Potential for Losses High	☐ Theft / Vandalism / Illegal Entry
☐ Other			☐ Violence or Threat of Violence

DID THE INCIDENT INVOLVE

A Serious injury or death ?	☐ No	☒ Yes; explain	fractured pelvis
A "Critical 5" High Risk event ? (per OSH Standard 110)	☒ No	☐ Yes; explain	
An Uncontrolled release of hazardous energy?	☐ No	☒ Yes; explain	Falling object.

BARRIERS

Were barriers in place to protect workers / equipment from exposure to the hazard(s) ? ☒ No ☐ Yes; check below if applicable

☐ Hazard(s) Eliminated ☐ Potential Energy Minimized ☐ Physical Barrier(s) ☐ Protective Equipment ☐ Warning Devices ☐ Other

POTENTIAL FOR RECURRENCE (if corrective action not taken)	FREQUENCY OF RECURRENCE (if corrective action not taken)
☐ No ☒ Yes	☐ Low ☒ Moderate ☐ High

BRIEF DESCRIPTION OF THE INCIDENT

Workers were using the power house crane to flip a lower bracket cover (weight of cover is 1150 lbs.). Once the cover was raised, with one end of the cover in contact with the floor, worker reached up to tilt the cover over, the eye bolt was side loaded, sheared, and the cover struck the worker, knocking him to the floor landing on the worker. Crane operator freed worker from under the load. (Crane operator is a level 3, 1st aid – started to administer 1st aid) Other workers assisted in packaging and transported worker to Trail hospital.

Worker sustained a fractured pelvis.

WITNESSES	PERSONS INVOLVED
☐ No ☒ Yes	Crane Operator

PART C. PERSONAL INJURY INFORMATION

Identify information required for WCB claims management purposes, complete only if injuries to employees involved

WERE THERE ANY INJURIES TO THE WORK ER(S)

☐ No; (Proceed to Part D) ☒ Yes; (Complete the questions below)

Did the injured employee seek first aid treatment only, i.e. no medical treatment required?	☒ No	☐ Yes; "Accident Record Book" entry required
Did the injured employee seek medical attention from a "qualified" practitioner?	☐ No	☒ Yes; completion of WCB Form 7 required
Was treatment given by a First Aid Attendant before patient was sent to medical attention?	☐ No	☒ Yes; completion of WCB Form 7A required
Will the injured employee miss any work beyond the day of the incident i.e. loss time incident?	☐ No	☒ Yes; estimated # of days: more than 10

PART D. PROPERTY DAMAGE / LOSS TO PROCESS

Identify loss or potential loss to equipment, structures, vehicles, tools, devices, process or other property

PROPERTY / EQUIPMENT DAMAGED

☒ No ☐ Yes;

IF YES, DESCRIBE THE TYPE OF PROPERTY OR EQUIPMENT DAMAGED AND THE NATURE OF THE DAMAGE OR LOSS

PART E. ASSOCIATED COST INFORMATION

Identify costs / potential costs associated with the accident/ incident

Estimated cost	☐ Under $5,000	☐ $5,000 - $10,000	☐ Over $10,000	☐ Unknown or N/A
Potential cost	☐ Under $5,000	☐ $5,000 - $10,000	☒ Over $10,000	☐ Unknown or N/A
Actual cost (if known)	☐ Under $5,000	☐ $5,000 - $10,000	☐ Over $10,000	☐ Unknown or N/A

PART F. INCIDENT DETAILS

Describe the sequence of events leading up to and following the incident (attach any drawings, pictures, etc.)

Unit #4 at the Waneta Generating Station is being reassembled as part of the Unit Life Extension (ULE). A Helper (Crane operator) was assigned the task of turning over the Generator bracket covers for cleaning and painting by the Mechanical Chargehand. The Crane operator was being assisted by the project Warehouseman / Level 3 first aid attendant (Helper), who when not doing warehousing assists in the various other project related tasks as a "Helper".

The project Warehouseman / Level 3 first aid attendant (Helper) asked the Crane operator if he needed help and it was agreed that the two workers would turn over the Generator bracket covers.

The workers held a Site Safe Work Plan (Tailboard) and proceeded to turn over the covers.

The covers are an irregular shape having a curved inner radius or "banana like" shape approximately 13-feet X 5-foot 4-inches weighing 1,150-pounds and constructed of 3/16 inch steel plate and 5X4X1/2" and 5X3X12" angle iron. The covers are designed with lifting points consisting of two 5/8-inch nuts welded to the back side of the plate into which a 5/8 inch eye bolt can be threaded.

Crews on site were not aware of the weight and the crane operator had **estimated** the weight to be 450-pounds. The cover was lying with the back side facing up. One 5/8th eye bolt was threaded into the nut and the powerhouse crane used to lift that end. Once raised the cover was not completely turned (90 degrees from floor). In order to turn the cover over to position the underside down, while the bottom end of the cover remained in contact with the floor, the Helper took hold near the top end and pulled the cover and the Crane operator pushed near the bottom. The Helper was concerned about being located so that he would be in the "line-of- fire" should something happen, so he moved to the high side, always standing to the side. At this moment the eye bolt sheared. The irregular shape of the cover caused it to turn as if fell, contacting the Helper and knocking him to the floor. He landed on his left side with the cover landing on top of him, pinning him to the floor.

The Crane operator managed to lift and push the cover off the helper. The Crane operator being a Level 3 first aid attendant began to administer first aid. As other workers (also trained in first aid) arrived the injured worker was packaged and transported to the Trail Hospital.

The Crane operator has worked for 9 years at Generation. He has experience and training in crane operating and rigging. He completed a Rigging & Safe Lifting refresher workshop June 3, 2004. This refresher presentation is repeated every 2 years.

The refresher was not designed to qualify workers to do rigging as complex as turning equipment.

The injured worker is a temporary employee in the Helper job classification, working primarily in warehousing and as a Level 3 first aid attendant. He has limited field experience. His original date of hire was May 27, 2002 his latest return to work date is June 14, 2005.

The 5/8-inch eye bolt rated capacity under vertical load is 5,200-lbs. Rated capacity at 45 degrees is 25% of rated capacity or 1,300-lb and use beyond 90 is not recommended. This rating is with the eye bolt shoulder in full contact with a flat surface (shouldered). The eye bolt used could not be shouldered to the nut see attached photo. This went unnoticed by the crane operator.

The Rigging & safe lifting training manual and handbook for riggers indicate - do not use passed 45 degrees. The Gray eye bolt information sheet **WARNING loading must never be made at an angle greater than 45 degrees from bolt centreline**.

Rumours implied the loading an eye bolt at 90 degrees, may have occurred where it is within the manufacturers load rating.

Causal Factors:

- The cover is 13-feet long once raised on end the top of the cover would be above the workers. Concern: Workers may be pushing and pulling on a suspended load within the fall zone.
- When the cover is lifted vertical with one eye bolt the load on the eye bolt would be close to 90 degrees. While tilting the cover the angle could exceed 90 degrees, also this tilting action would put additional stress on the rigging.
- Rigging training manuals, handbook for riggers and Gray eye bolt information indicate not to rig beyond 45 degrees. **Recommend** using hoisting rings or pivoting eye bolts be used when hosting angular loads. ***Recommendation****: Use of slings "choked" around the cover plate to turn the cover plates along the short side axis while in contact with appropriate blocking. The cover should not be lifted clear of the blocking. The load is kept as low as possible.*
- The nut welded to the cover is dome shaped even if an eye bolt that would shoulder to the nut had been used it would not have sufficient material to cover or shoulder to. This nut was never meant to be used rigged from the back or side loaded beyond 45 degrees. ***Recommendation****: Label the 2 lifting points "For vertical lifting of cover plate only"*
- The worker estimated the weight of the cover to be 450-lb. when the actual weight is 1,150 lb. ***Recommend*** *marking "actual" weights on components when known or as they are found.*
- FortisBC Inc. Generation has no written formal requirement for rigging plans on what we consider smaller lifts. ***Recommend*** procedure / lift plan or rigging method being proposed to be reviewed and signed off by a Qualified Worker.

WCB OHS Regulations to be considered:

14.36 Load weight

(1) The weight of each load to be hoisted by a crane or hoist must be determined and communicated to the equipment operator and to any other worker involved in the hoisting operation.

(2) If the weight of a load to be lifted cannot be determined, the crane or hoist to be used for the lift must have a load weight indicator, or a load limiting device.

14.44 Loads over work areas

(1) Work must be arranged to prevent passing loads over workers wherever possible.

(2) A crane or hoist operator must not pass a load over workers, unless no practicable alternative exists and then only when the workers have been warned of the danger by an audible alarm.

(3) A worker must not stand or pass beneath a suspended load except as permitted by subsection (2).

15.2 Qualified riggers

Rigging and slinging work must be done by or under the direct supervision of qualified workers familiar with the rigging to be used and with the code of signals authorized by the Board for controlling hoisting operations.

15.4 Use of rigging

(2) The load applied to any rigging or rigging assembly must not exceed the working load limit.

4.3 Safe machinery and equipment

(1) The employer must ensure that each tool, machine and piece of equipment in the workplace is

(a) capable of safely performing the functions for which it is used, and

(b) selected, used and operated in accordance with

(i) the manufacturer's recommendations and instructions, if available,

(ii) safe work practices, and

(iii) the requirements of this Regulation.

(2) Unless otherwise specified by this Regulation, the installation, inspection, testing, repair and maintenance of a tool, machine or piece of equipment must be carried out

(a) in accordance with the manufacturer's instructions and any standard the tool, machine or piece of equipment is required to meet, or

(b) as specified by a professional engineer.

(3) A tool, machine or piece of equipment determined to be unsafe for use must be identified in a manner which will ensure it is not inadvertently returned to service until it is made safe for use.

(4) Unless otherwise specified by this Regulation, any modification of a tool, machine or piece of equipment must be carried out in accordance with

(a) the manufacturer's recommendations and instructions, if available,

(b) safe work practices, and

(c) the requirements of this Regulation.

Investigation Completed By:

Name(s):	**Name(s):**
Arnie Anderson	
Terry Philp	

PART H. RECOMMENDATIONS
Identify preventive and corrective actions taken or to be taken

Causal Factor #1 and Root Causes	**Management systems / Policies admin controls in need of improvement / Management system/ Standards, policies or Admin controls not strict enough**. One end of the load was in contact with the floor and one end was suspended, - both workers appear to have been within the fall / launch zone due to odd shape.
Action Required:	Ensure workers are not near a suspended load or fall zone. Alternative means of controlling the load (such as tag lines) while the load is suspended must be included in the "rigging plan".
Position(s) Responsible:	**D'Arcy Pommier, Superintendent, Mechanical**
Status / Results:	
Target Completion Date:	**December 8, 2006**

Causal Factor #2 and Root Causes	**Management Systems / an independent check should have caught this / quality control / Inspection NI.** Employees working near a suspended load. A tag line could have been used for tilting the cover or alternative rigging used so as workers would be farther from the load. Inspections did not catch error.
Action Required:	Education required for employees to deliver effective inspection and observation of work practices.
Position(s) Responsible:	**Rob Dunsmore, Director, Generation**
Status / Results:	
Target Completion Date:	**December 22, 2006**

Causal Factor #3 and Root Causes	**Management systems / Policies admin controls in need of improvement / Worker Direction needs improvement.** The task of flipping the covers was considered a minor task and due consideration of the complexity of the rigging was not considered.
Action Required:	• All crews to be informed that loading eye bolts at an angle greater than 45 degrees from bolt centerline not acceptable. • Hosting rings or pivoting eye bolt may be used if approved in the "rigging plan". • A reviewed "rigging plan" including lift weights must be done for all lifts.
Position(s) Responsible:	**D'Arcy Pommier, Superintendent, Mechanical**
Status / Results:	
Target Completion Date:	**December 8, 2006**

Causal Factor #4 and Root Causes	**Human performance / The person needed more skill/knowledge to perform the job / Work Direction / Preparation**
Action Required:	No lifting will be done without a documented and reviewed "rigging plan". The review will be done by an identified qualified worker. Rigging method and rigging must be clearly documented as a "rigging plan" by the qualified workers familiar with the rigging to be used. Prior to executing the "lift" the rigging plan will be reviewed by a "second" identified qualified worker as determined by management. The review will ensure approved rigging practices will be maintained for the identified lift.
Position(s) Responsible:	**D'Arcy Pommier, Superintendent, Mechanical**
Status / Results:	
Target Completion Date:	**December 8, 2006**

To: All FortisBC Generation Employees

From: Rob Dunsmore, Director, Generation

Date: December 12, 2006, revised April 5, 2007, May 30 2007, June 22, 2007

Subject: Generation Rigging and Lifting Policy

Generation Rigging and Lifting policy:

Every employee is responsible for planning their work to be completed in a safe manner. If any rigging or lifting is part of a job, a rigging job plan must be prepared by the crew assigned to the job. The rigging job plan must be reviewed by a designated rigger prior to commencing the job. This plan will be included as part of the site work plan (tailboard) document.
The designated rigger is responsible for reviewing the workers rigging procedure (job plan) and offering any recommendations and suggestions if required.
The crew assigned to the job must incorporate any recommendations from the designated rigger into their rigging job plan (lifting procedure).
The crew performing the job (those signed on to the site work plan) will be responsible for performing the job in a safe manner and following the lifting procedure.

Designated Riggers for FortisBC Generation

Brent Russell	Walter Verigin	Mike Dowes
Brad Stykel	Shean O'Farrell	
Ken Konkin	Gord Stoochnoff	
Dorian Craft	Robert Boyes	
Jay Kabatoff	Jerry Schuepfer	
Paul Verigin	David Mock	
Peter Kabel	Leroy Plotnikoff	
Joe Nazaroff	Jake Zondervan	
Rod Farness	Walter Kutzner	
Dennis Robinson	Paul Matteucci	
Graham Menzies	Cecil Kavaloff	
Grant Smith	Barry Doherty	
James Waddington	Randy Popoff	

FUNDAMENTALS OF RIGGING
COURSE OUTLINE

1. **Crane and Rigging Accidents**

   A review of serious crane accidents that addresses their causes and methods of prevention including a detailed exploration of Responsibilities and Due Diligence.

2. **Wire Rope**

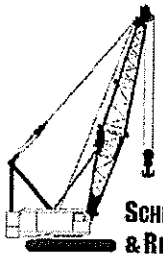
   A technical chapter on the construction, application and proper use of wire rope products. Safety Factors and the effect of Shock Load and other forms of abuse are studied.

3. **Hardware**

   Contains a review and explanation of all of the Hardware commonly used in crane and hoisting situations. Emphasis was on the structural loading of components such as spreader bars, slings and shackles. Instruction in proper rigging techniques and correct application of rigging hardware.

4. **Rigging Mechanics**

   Instruction in the calculation of sling loadings due to sling angle and the effect of sling angle on lift lugs and the load. Method to design proper lift lugs and the ability to recognize lift lugs that are not up to standard. Procedure to calculate the Composite Center of Gravity of various objects. Proper signals for mobile and overhead cranes.



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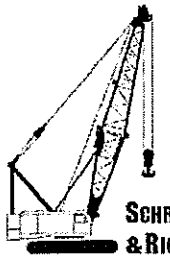
FUNDAMENTALS OF RIGGING
Page 2

5. Safe Operating Practices

Instruction in proper set up of cranes as well as many operating techniques with emphasis on the effect of off level operation on crane structural strength. Full description of all legal requirements for the hoisting of personnel and for working around power lines. Excerpts from Alberta regulations such as the Electric Utility Regulations and from CSA – Z150.

6. Chapter Six – Crane and Rigging Hazards:

Highlights the common hazards that are presented by work of this nature such as power lines, underground lines, pinch points and the "Bad Side of the Load". Equips the student to recognize these hazards. Procedure to calculate the maximum possible outrigger and track point loads. Methods of reducing risk are explored.



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ADVANCED RIGGING SAFETY COURSE OUTLINE

1. **Chapter One - Crane and Rigging Accidents**

   A review of serious crane accidents that addresses their causes and methods of prevention including a detailed exploration of Responsibilities and Due Diligence.

2. **Chapter Two – Wire Rope**

   A technical chapter on the construction, application and proper use of wire rope products. Safety Factors and the effect of Shock Load and other forms of abuse are studied.

3. **Chapter Three – Crane Inspection**

   Contains a detailed explanation of the three levels of crane inspection that are required by law. We cover the Daily Inspection, the Monthly or 200 hr. Inspection and the Annual Inspection that includes the process of Re-Certification.

   This standard is carried over to the Practical Training portion, with the student demonstrating "Best Practice" inspection techniques.

4. **Chapter Four – Hardware**

   Contains a review and explanation of all of the Hardware commonly used in crane and hoisting situations. Emphasis is on the structural loading of components such as spreader bars, slings and shackles. Instruction in proper rigging techniques and correct application of rigging hardware.

ADVANCED RIGGING SAFETY COURSE OUTLINE PAGE 2

5. **Chapter Five – Lift Etiquette and Protocol**

Deals with method or atmosphere that should surround work situations that involve risk as outlined in accepted "Best Practice".

6. **Chapter Six – Crane and Rigging Hazards**

Highlights the common hazards that are presented by work of this nature such as power lines, underground lines, pinch points and the "Bad Side of the Load". Equips the student to recognize these hazards. Procedure to calculate the maximum possible outrigger and track point loads. Methods of reducing risk are explored.

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Instruction in the calculation of sling loadings due to sling angle and the effect of sling angle on lift lugs and the load. Method to design proper lift lugs and the ability to recognize lift lugs that are not up to standard. Procedure to calculate the Composite Center of Gravity of various objects. Proper signals for mobile and overhead cranes.

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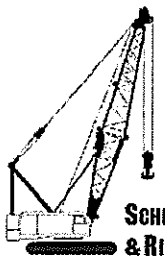

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ADVANCED RIGGING SAFETY COURSE OUTLINE
PAGE 3

9. Chapter Nine – Load Charts

Full description of proper load chart calculations for Mobile Cranes with practice problems for the student to solve. Sixty percent of the final mark is based on proper load chart calculations.

Manufacturer Recommendations to calculate safe loads for their cranes are followed explicitly with attention paid to Cold Weather Restrictions.

10. Chapter Ten – Dynamics of Multi-Crane Lifts

An introduction to the changing loads that are induced when handling loads with more than one crane. Awareness of when weight is transferred from one crane to another during the tailing process so that adequate surplus capacities can be assured. Little known examples of extreme loadings that can be placed on tail cranes are explained.

Procedures to transfer loads safely from one crane hook to another and the dynamics of long loads are discussed.

The effect of one crane lifting above the other on a two crane lift is explained, as well as the severe effect that can result from load lines being out of plumb during lifts.

Over-end block lifts are introduced, as well as recognition of the unique tipping properties of crawler cranes.

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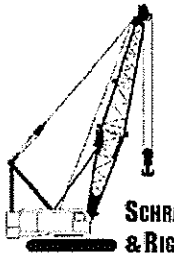
ADVANCED RIGGING SAFETY COURSE OUTLINE
PAGE 4

11. Chapter Eleven – Rigging Problems:

This chapter allows the student to demonstrate their natural ability to solve complex rigging problems. At the completion of the student effort, the problems are discussed with all proper techniques described.



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Lift Plan, Load Chart Calculation Sheet

JOB PLAN: 0926

Date: _____ Repetitive Job # _____

Plant: _____ Unit: _____ Job order # _____

CRANE: _____ **MODEL:** _____ **CONFIG:** _____

1.GROSS CAPACITY		lbs.
2. ACTUAL LOAD RADIUS		feet
3.MAXIMUM RADIUS		feet
4.ACTUAL BOOM LENGTH		feet
5.MAXIMUM BOOM LENGTH		feet
6.ACTUAL BOOM ANGLE		degrees
7.BOOM ANGLE @ MAXIMUM RADIUS		degrees
8.NET LOAD (actual weight of the load)		lbs.
DEDUCTIONS:		
Rigging Weight		lbs.
Headache Ball		lbs.
_____ Jib		lbs.
_____ Part Block		lbs.
_____		lbs.
_____		lbs.
_____		lbs.
_____		lbs.
9.TOTAL DECUCTIONS		lbs.
10.TOTAL LOAD (net or actual load plus total deductions)		lbs.
11.NET CAPACITY or 100% PAYLOAD (gross capacity minus total deductions)		lbs.
12.PERCENTAGE OF CAPACITY (total load divided gross capacity X 100)		%
13.CRITICAL LIFT (greater than 90% or multi crane)	Yes _____	No _____
14.PERMITTED AREA OF OPERATION (over side etc)		
15.PERMISSIBLE LINE PULL		lbs.
16.CALCULATION COMPLETED BY:		
17.DATE		

WORK SAFE BC
WORKING TO MAKE A DIFFERENCE

Assessment Department of the Workers' Compensation Board of British Columbia

Mailing Address
PO Box 5350
Station Terminal
Vancouver BC V6B 5L5

Location
6951 Westminster Hwy
Richmond BC V7C 1C6
Telephone 604 244 6181
www.worksafebc.com

Employer Service Centre
Telephone 604 244 6181
Toll Free within Canada
1 888 922 2768
Fax 604 244 6490

October 16, 2006

328

FORTISBC INC
ATTN: PAYROLL DEPARTMENT
5TH FLOOR 1628 DICKSON AVE
KELOWNA BC V1Y 9X1

Account Number: 467545
Classification: Electric Utilities (767003)

Your Rate Information for 2007

WorkSafeBC - the Workers' Compensation Board of B.C. - is funded entirely by employers. Through your premiums, you are protected from lawsuits by workers who suffer work-related injuries and you help cover the cost of health care, rehabilitation and compensation for these employees.

Considering that a single injury can exceed $1 million, the premiums we collect from employers must cover the current and future cost of claims. For instance, during 2005, WorkSafeBC paid $1,097,000,000 in benefits to B.C.'s injured workers on behalf of employers.

To cover these expenses, each year we calculate a base rate, which reflects the historical cost of injuries in your industry. An experience rating discount or surcharge, based on your firm's health and safety record, is then applied to determine your net rate.

The experience rating calculations show that, for 2007, your net rate will decrease to $0.86 from $0.93 in 2006.

The table below shows how we calculated your rate.

Calculation Steps	% Adjustment	$ Value	Description
Base rate		$0.91	The rate per $100 of assessable payroll for all employers who share this classification.
Experience rating adjustment	6.0% discount	-$0.05	Adjustment to your rate based on your claims' cost history.
Net rate		**$0.86**	Your rate per $100 of assessable payroll. For 2007, the maximum assessable payroll per worker is $64,400.

This letter is for information only. For information about the claim costs in your rate group, refer to the last page of this document. If you have questions about your account, contact our Employer Service Centre at one of the numbers listed at the top of this page. Please note that you are responsible for contacting the Centre if the classification listed above does not reflect your core business operations.

Save time by managing your account online. Sign-up for our online services at WorkSafeBC.com.

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Detailed Experience Rating Calculation for 2007

October 16, 2006

Account Number: 467545
Employer Name: FORTISBC INC

Classification: Electric Utilities (767003)

Experience rating adjustment for 2007: 6.0% discount

Experience rating compares your claim costs to the average claim costs in your rate group. The following table shows the calculation of your experience rating adjustment, based on your payroll and type of business. While the formula uses three years of information, it emphasizes your most recent experience.

Part 1: Claims Cost Experience	2003	2004	2005	Explanation
Claims costs paid to June 30, 2006	$61,099.53	$35,793.07	$24,993.91	**a** Costs paid for injuries that occurred in each of the years shown. See the enclosed list of claims that have been included in these totals.
Assessable payroll	$22,242,553	$22,560,432	$28,075,045	**b** Your assessable payroll for each year shown.
Your firm's claims cost to payroll ratio	0.002746	0.001586	0.000890	**c = a / b** Your claims costs divided by your payroll for each year.
Rate group claims cost to payroll ratio	0.001840	0.001816	0.001829	**d** Total claims costs divided by the total payroll for your rate group. This determines the average for your rate group.
Variance indicator	1.492391	0.873348	0.486604	**e = c / d** A number less than 1 indicates that your firm's experience is better than the average of the rate group. A number greater than 1 indicates experience is worse than average. For example, a value of 2 would indicate that the experience is two times worse than average.
Capped variance	1.492391	0.873348	0.486604	**f = e** (up to a pre-determined maximum of 3) Variances are capped at a maximum to limit extreme rate fluctuations.
Weighting	16.7%	33.3%	50.0%	**g** The experience rating plan looks at a three-year window of claims costs and payroll information. Weightings are applied to emphasize your most recent years' experience.
Weighted variance per year	0.248731	0.291116	0.243302	**h = f * g** Variance indicator once we have applied the weightings.
Weighted average variance		**0.783149**		**i = sum of all h's** **Represents your firm's overall experience over the three-year window, compared to the rate group average (see 'e' for explanation).**

Calculation Date: October 07, 2006

Workers' Compensation Board of British Columbia

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Detailed Experience Rating Calculation for 2007

October 16, 2006

Account Number: 467545
Employer Name: FORTISBC INC

Classification: Electric Utilities (767003)

Part 2: Participation in the ER Plan	2003	2004	2005	Explanation
Classification unit base rate for 2007		$0.91		**j** Base rate for your classification.
Assessable payroll	$22,242,553	$22,560,432	$28,075,045	**k** Same as Part 1 Row b Assessable Payroll.
Participation level by year*	62.8%	63.1%	68.0%	**l = (j * k / 100) / ((j * k / 100) + 120,000)** Determines the level at which your firm will participate in the experience rating plan for a given year. 120,000 is a value that controls your participation in the experience rating plan. This value could change over time.
Weighting	16.7%	33.3%	50.0%	**m** Same as Part 1 Row g Weighting.
Weighted participation level per year*	10.5%	21.0%	34.0%	**n = l * m** Participation level once the weightings have been applied. These values have been rounded for display purposes. As a result, the sum of these values may not equate to the Weighted average participation level displayed in Row o.
Weighted average participation level (minimum 10%)		**65.5%**		**o = sum of all n's (with a minimum of 10%)** **This amount indicates the degree to which your firm participates in the plan. A small percentage means more emphasis will be placed on long-term trends in your experience. A higher percentage means more emphasis is placed on your experience in this three-year window.**

* Figures are rounded for display purposes.

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Detailed Experience Rating Calculation for 2007

October 16, 2006

Account Number: 467545
Employer Name: FORTISBC INC

Classification: Electric Utilities (767003)

Part 3: Experience Rating Adjustment	Value	Explanation
Weighted average variance	0.783149	**p** Same as Part 1 Row i
Weighted average participation level	65.5%	**q** Same as Part 2 Row o
Experience rating factor for 2006	1.069322	**r** This number reflects the trend of your past experience. A value of 1 represents the average. This value is 1 for employers who qualify to be experience rated for the first time (this assumes an employer is average until actual experience occurs).
Experience rating factor for 2007	0.881819	**s = p * q + (1 - q) * r** This formula takes into account your claims cost experience relative to your rate group and your participation level. This factor represents a stepping mechanism to minimize fluctuations in experience rating from year to year. The effect of this formula is: • The higher the participation level, the more the emphasis is placed on the last three years. • The lower the participation level, the more the emphasis is placed on the long-term trend.
Calculated experience rating adjustment for 2007	**6.0% discount**	**t = (s - 1) / 2 * 100** **This is the experience rating discount or surcharge calculated for your firm.**

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Listing of Claims Used for your Experience Rating for 2007

October 16, 2006

Account Number: 467545
Employer Name: FORTISBC INC

Classification: Electric Utilities (767003)

The following claim(s) have been used to calculate your experience rating for 2007.

Year of Injury: **2003**

Account Number	Claim Number	Name (Last / First / Middle)	Total Paid to June 30, 2006
467545	NB03236962	[redacted]	$961.80
467545	NM03237117		$94.04
467545	NM03237118		$171.96
467545	NM03237139		$110.00
467545	NB03237174		$143.55
467545	NB03240004		$180.99
467545	NB03240071		$295.55
467545	NB03240303		$69.52
467545	NB03240553		$213.75
467545	NC03240597		$1,636.00
467545	NB03240662		$33.55
467545	NC03240956		$13,010.62
467545	NB03241089		$704.54
467545	NY03241915		$9,200.06
467545	NB03242070		$9,778.84
467545	NB03242644		$181.50
467545	NC03242905		$784.28
467545	PC03283238		$6,511.13
467545	PC03283353		$4,033.30
467545	PB03284164		$170.62
467545	PC03286551		$686.43
467545	PC03303229		$10,190.52
467545	PB03303628		$1,364.16
467545	PB03305746		$120.52
467545	PB03306705		$452.30
		Total Costs Paid for 2003 Claims	**$61,099.53**

Year of Injury: **2004**

Account Number	Claim Number	Name (Last / First / Middle)	Total Paid to June 30, 2006

Calculation Date: October 07, 2006

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Listing of Claims Used for your Experience Rating for 2007

October 16, 2006

Account Number: 467545
Employer Name: FORTISBC INC

Classification: Electric Utilities (767003)

...continued

Year of Injury: **2004**

Account Number	Claim Number	Name (Last / First / Middle)	Total Paid to June 30, 2006
467545	NM04230392	[redacted]	$214.96
467545	NM04230464		$153.00
467545	NB04230553		$61.96
467545	NB04240338		$3,366.27
467545	NB04240525		$132.16
467545	NB04240571		$33.55
467545	NB04240608		$3,555.76
467545	NB04241188		$153.00
467545	NC04241356		$24,368.35
467545	NB04241607		$616.63
467545	NB04242005		$191.58
467545	PM04282346		$153.00
467545	PM04282639		$55.65
467545	PB04300257		$369.25
467545	PY04300787		$33.96
467545	PB04301866		$368.11
467545	PB04301894		$218.49
467545	PB04304917		$373.08
467545	NB04810727		$238.37
467545	NB04824444		$308.80
467545	NB04830215		$35.49
467545	PC04835103		$638.65
467545	PM04840197		$153.00
		Total Costs Paid for 2004 Claims	**$35,793.07**

Year of Injury: **2005**

Account Number	Claim Number	Name (Last / First / Middle)	Total Paid to June 30, 2006
467545	NB05103761	[redacted]	$772.13
467545	NM05104113		$115.01
467545	NB05105467		$841.68

Calculation Date: October 07, 2006

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Listing of Claims Used for your Experience Rating for 2007

October 16, 2006

Account Number: 467545
Employer Name: FORTISBC INC

Classification: Electric Utilities (767003)

...continued

Year of Injury: **2005**

Account Number	Claim Number	Name (Last / First / Middle)	Total Paid to June 30, 2006
467545	PB05108891	[redacted]	$33.55
467545	NM05115791		$208.65
467545	NB05121570		$153.00
467545	NB05133588		$186.55
467545	NM05137579		$158.00
467545	NC05138862		$9,320.50
467545	NB05154022		$33.55
467545	NM05154559		$448.16
467545	NB05161598		$74.26
467545	NC05187586		$1,433.45
467545	NB05196763		$67.10
467545	PB05204520		$189.43
467545	NB05206217		$158.00
467545	NB05212682		$7,698.85
467545	NC05221085		$2,560.94
467545	PB05227949		$158.00
467545	NM05244673		$191.55
467545	PB05255263		$191.55
		Total Costs Paid for 2005 Claims	**$24,993.91**

Calculation Date: October 07, 2006

Workers' Compensation Board of British Columbia

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Industry Base Rate Information

October 16, 2006

Account Number: 467545
Employer Name: FORTISBC INC

Classification: Electric Utilities (767003)

When you pay your premium to WorkSafeBC, you are purchasing insurance that protects you against lawsuits from workers who are injured on the job and provides health care, wage-loss compensation and rehabilitation benefits for injured workers.

As with other forms of insurance, workers' compensation is based on the principle of collective liability. This simply means that the premiums you and other employers pay are pooled to cover the cost of claims by injured workers within your industry and risk pool.

Claims can last many years, depending on the severity of the injury. As a result, the premium pool needs to be large enough to cover the current and estimated future cost of claims for all industries that are insured by WorkSafeBC. Over the last five years, these costs - known as the fully reserved cost of claims - have averaged $717,150,000 per year for workers injured in B.C.

Some industries are inherently more dangerous than others, with a higher risk of worker injury. Consequently, employers in industries with similar claim costs are grouped together in rate groups, ensuring the industries with similar levels of risk pay similar base rates. Discounts or surcharges can be applied to that base rate, based on an employer's claims cost record.

Over the last five years, the fully reserved cost of claims for your rate group, Rate Group EU, has averaged $5,800,000 per year. That's the current and estimated future cost of 1,300 claims by workers injured on the job in Rate Group EU.

The average fully reserved cost for a claim in your rate group is $4,500. However, for the most severe injuries, the total cost for current and future health care, compensation and rehabilitation is estimated to be as high as $1,200,000 for a single claim.

In your rate group, the average annual injury rate is 2.1 percent. This means that, on average, each year 21 out of every 1000 workers in your rate group had a claim for wage loss benefits.

For a more detailed explanation of rate groups and our rate-setting process, please visit our web site at WorkSafeBC.com.

Workers' Compensation Board of British Columbia

FORTISBC

Unaudited Interim Financial Statements
For the three and six months ended June 30, 2007

CONSOLIDATED BALANCE SHEETS As at (unaudited)	June 30, 2007 ($000s)	December 31, 2006 ($000s)
ASSETS (note 4)		
Current assets		
Cash	**119**	46
Accounts receivable (note 6)	**32,145**	45,751
Prepaid expenses	**1,132**	1,389
Deferred charges and other assets	**909**	863
Materials and supplies	**624**	699
Regulatory assets	**243**	396
	35,172	49,144
Deferred charges and other assets	**12,944**	15,263
Regulatory assets	**18,276**	18,142
Property, plant and equipment (note 3)	**783,858**	731,235
Goodwill	**1,209**	1,209
TOTAL ASSETS	**851,459**	814,993
LIABILITIES AND SHAREHOLDER'S EQUITY		
Current liabilities		
Accounts payable and accrued liabilities (note 6)	**37,452**	32,852
Accrued interest	**4,997**	5,004
Current portion of debt (note 4)	**41,240**	27,424
Regulatory liabilities	**1,261**	2,502
Income taxes payable	**981**	717
	85,931	68,499
Long-term debt (note 4)	**416,761**	410,649
Obligation under capital lease and other liabilities	**29,218**	29,289
Other post-retirement benefits	**7,848**	7,002
Future income taxes	**1,903**	1,891
	455,730	448,831
Shareholder's equity		
Share capital (note 5)	**151,851**	151,851
Retained earnings	**157,947**	145,812
	309,798	297,663
Contingencies (note 9)		
TOTAL LIABILITIES AND SHAREHOLDER'S EQUITY	**851,459**	814,993

CONSOLIDATED STATEMENTS OF EARNINGS (Unaudited)	Three months ended June 30		Six months ended June 30	
	2007 ($000s)	2006 ($000s)	2007 ($000s)	2006 ($000s)
Revenues (note 6)				
Electricity revenue	**46,593**	44,869	**106,566**	103,932
Other revenue	**1,417**	(187)	**3,416**	1,106
	48,010	44,682	**109,982**	105,038
Expenses (note 6)				
Power purchases	**13,197**	13,920	**33,290**	33,151
Operating and maintenance	**7,550**	8,701	**16,459**	16,386
Depreciation	**7,056**	5,737	**14,138**	12,319
Property taxes	**2,843**	2,732	**5,671**	5,464
Water fees	**1,972**	2,125	**3,991**	4,241
Wheeling	**867**	845	**1,728**	1,821
Amortization of deferred charges and regulatory assets	**698**	707	**1,405**	1,192
	34,183	34,767	**76,682**	74,574
Earnings from operations	**13,827**	9,915	**33,300**	30,464
Interest expense				
Long-term debt	**6,618**	6,505	**13,258**	12,973
Short-term debt	**252**	100	**628**	235
Allowance for funds used during construction	**(822)**	(652)	**(1,438)**	(1,328)
	6,048	5,953	**12,448**	11,880
Earnings before income taxes	**7,779**	3,962	**20,852**	18,584
Income taxes	**1,183**	412	**2,917**	3,721
Net earnings	**6,596**	3,550	**17,935**	14,863

CONSOLIDATED STATEMENTS OF RETAINED EARNINGS (Unaudited)	Three months ended June 30		Six months ended June 30	
	2007 ($000s)	2006 ($000s)	2007 ($000s)	2006 ($000s)
Retained earnings, beginning of period	**154,251**	138,315	**145,812**	129,502
Net earnings	**6,596**	3,550	**17,935**	14,863
Dividends	**(2,900)**	(2,500)	**(5,800)**	(5,000)
Retained earnings, end of period	**157,947**	139,365	**157,947**	139,365

The accompanying notes are an integral part of these consolidated financial statements.

CONSOLIDATED STATEMENTS OF CASH FLOWS (Unaudited)	Three months ended June 30		Six months ended June 30	
	2007 ($000s)	2006 ($000s)	2007 ($000s)	2006 ($000s)
Operating activities				
Net earnings	**6,596**	3,550	**17,935**	14,863
Adjustments for non-cash items:				
Depreciation	**7,056**	5,737	**14,138**	12,319
Amortization of deferred charges and regulatory assets	**698**	707	**1,405**	1,192
Future income taxes	**6**	6	**12**	12
Deferred charges and other non-current assets and liabilities	**34**	1,866	**(799)**	1,634
	14,390	11,866	**32,691**	30,020
Changes in non-cash working capital (note 7)	**1,069**	3,433	**12,308**	11,333
	15,459	15,299	**44,999**	41,353
Investing activities				
Additions to property, plant and equipment	**(39,620)**	(20,489)	**(67,215)**	(44,435)
Additions to deferred charges and other non-current assets	**(1,326)**	(1,047)	**(1,495)**	(1,487)
Changes in non-cash working capital (note 7)	**3,170**	1,851	**6,255**	(2,286)
	(37,776)	(19,685)	**(62,455)**	(48,208)
Financing activities				
Proceeds from bank debt	**56,649**	6,205	**23,842**	6,205
Proceeds from affiliate demand notes	**-**	-	**31,000**	-
Repayment of affiliate demand notes	**(31,000)**	-	**(31,000)**	-
Repayment of mortgage	**(156)**	(143)	**(310)**	(283)
Repayment of capital lease obligation	**(134)**	(123)	**(134)**	(123)
Dividends	**(2,900)**	(2,500)	**(5,800)**	(5,000)
Deferred financing costs	**(69)**	(93)	**(69)**	(70)
	22,390	3,346	**17,529**	729
Increase (decrease) in cash	**73**	(1,040)	**73**	(6,126)
Cash, opening balance	**46**	1,382	**46**	6,468
Cash, closing balance	**119**	342	**119**	342
Cash flows include the following elements:				
Interest paid	**9,268**	8,996	**13,893**	13,208
Income taxes paid	**1,080**	1,440	**2,160**	2,880

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
For the three and six month periods ended June 30, 2007 and 2006
(Unaudited)

(All tabular dollar amounts are in thousands, unless otherwise noted)

1. ENTITY DEFINITION AND NATURE OF OPERATIONS

FortisBC Inc. ("FortisBC" or the "Company") was incorporated by an Act of the Legislature of British Columbia. The Company is a wholly-owned subsidiary of Fortis Pacific Holdings Inc. ("Fortis Pacific") which is an indirect wholly-owned subsidiary of Fortis Inc. ("Fortis"), a Canadian public company.

FortisBC is an integrated, regulated electric utility which owns and operates a network of generation, transmission and distribution assets located in the southern interior of British Columbia. The Company serves residential, commercial, wholesale and industrial consumers of electricity. The Company's generation assets include four regulated hydroelectric generating plants on the Kootenay River with an aggregate installed capacity of 235 megawatts and a non-regulated 16 megawatt run-of-river hydroelectric generating plant near Lillooet, British Columbia. The Company's regulated transmission and distribution assets consist of a network of transmission and distribution power lines, substations and support structures.

Interim results will fluctuate due to the seasonal demands for electricity, the movements of electricity prices and the timing and recognition of regulatory decisions. The Company's operations generally produce higher earnings in the first and fourth quarters when demand for electricity is higher. Consequently, interim results are not necessarily indicative of annual results.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Basis of presentation

These consolidated financial statements have been prepared by management in accordance with Canadian generally accepted accounting principles ("GAAP") for interim financial statements and do not include all the disclosures normally found in the Company's annual consolidated financial statements. These interim consolidated financial statements should be read in conjunction with the Company's audited consolidated financial statements for the year ended December 31, 2006.

The consolidated financial statements include the accounts of the Company and its wholly-owned partnership and subsidiaries, Walden Power Partnership ("WPP"), ESI-Power Walden Corporation Ltd. and West Kootenay Power Ltd. Kootenay River Power Corporation, a non-operating subsidiary of the Company, was dissolved on April 20, 2007. All significant inter-company transactions and balances have been eliminated upon consolidation.

These consolidated financial statements have been prepared following the same accounting polices and methods as those used in preparing the most recent audited consolidated financial statements except for those described under "new accounting policies".

(All tabular dollar amounts are in thousands, unless otherwise noted)

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

New accounting policies

Effective January 1, 2007, FortisBC adopted the following new accounting standards issued by the Canadian Institute of Chartered Accountants ("CICA").

a) Section 3855, *Financial Instruments – Recognition and Measurement* and Section 3861, *Financial Instruments – Disclosure and Presentation*, prescribe the criteria for recognition and presentation of financial instruments on the balance sheet and the measurement of financial instruments according to prescribed classifications. These sections also address how financial instruments are measured subsequent to initial recognition and how the gains and losses are recognized.

The Company is required to designate its financial instruments into one of the following five categories: held for trading; available for sale; held to maturity; loans and receivables; and other financial liabilities. All financial instruments are to be initially measured at fair value. Financial instruments classified as held for trading or available for sale are subsequently measured at fair value with any change in fair value recorded in net earnings and other comprehensive income, respectively. All other financial instruments are subsequently measured at amortized cost.

All derivative financial instruments, including derivative features embedded in financial instruments or other contracts but which are not considered closely related to the host financial instrument or contract, are generally classified as held for trading and, therefore, must be measured at fair value with changes in fair value recorded in net earnings. However, if a derivative financial instrument is designated as a hedging item in a qualifying cash flow hedging relationship, the effective portion of changes in fair value is recorded in other comprehensive income. Any change in fair value relating to the ineffective portion is recorded immediately in net earnings.

FortisBC has designated its financial instruments as follows:

- Cash is classified as *"Financial Assets Held for Trading"*. Due to its nature, the carrying value equals its fair value.
- Accounts receivable, damage deposits, employee loans and energy management loans are classified as *"Loans and Receivables"*. These financial assets are recorded at values that approximate their amortized cost using the effective interest method.
- Accounts payable and accrued liabilities, operating credit and overdraft facilities, affiliate demand notes, secured and unsecured debentures and mortgage obligations are classified as *"Other Financial Liabilities"*. These financial liabilities are recorded at values that approximate their amortized cost using the effective interest method.

Under Section 3855, embedded derivatives are required to be separated from the host contract and accounted for as a derivative financial instrument if the embedded derivative and host contract are not closely related, and the combined contract is not held for trading or designated at fair value. While some

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2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

New accounting policies (continued)

of the Company's long-term debt contracts have prepayment options that qualify as embedded derivatives to be separately recorded, none have been recorded as they are immaterial to the Company's results of operations and financial position.

As a result of adopting Section 3855, deferred financing costs relating to long-term debt have been reclassified from deferred charges and other assets to long-term debt on the balance sheet. These costs will be taken into earnings using the effective interest method over the life of the related debt.

Certain of the Company's non-financial contracts meet the definition of a derivative but qualify for an expected usage exemption as they are used in the normal course of business. These contracts include the Brilliant Power Purchase Agreement, a power purchase agreement with BC Hydro, as well as several smaller independent power producer contracts.

b) Section 1530, *Comprehensive Income*, introduces a new financial statement "Statement of Comprehensive Income" and provides guidance for the reporting and display of other comprehensive income. Comprehensive income represents the change in equity of an enterprise during a period from transactions and other events arising from non-owner sources including gains and losses arising on translation of self-sustaining foreign operations, gains and losses from changes in fair value of available for sale financial assets and changes in the fair value of the effective portion of cash flow hedging instruments. The Company has not recognized any adjustments through other comprehensive income for the three and six months ended June 30, 2007.

c) Section 3865, *Hedges*, specifies the criteria under which hedge accounting may be applied, how hedge accounting should be performed under permitted hedging strategies and the required disclosures. This standard did not have an impact on the Company for the three and six months ended June 30, 2007.

Regulation

The Company is regulated by the British Columbia Utilities Commission ("BCUC"). The BCUC administers acts and regulations, pursuant to the *Utilities Commission Act* (British Columbia) covering such matters as tariffs, rates, construction, operations, financing and accounting.

FortisBC operates primarily under a cost of service regulation as prescribed by the BCUC. The Company applies to the BCUC for annual revenue requirements based on estimated costs of service, including, but not limited to, operating expenses, power purchases, depreciation and amortization, income taxes, interest on debt and a return on equity. In addition, the regulatory framework includes some performance-based rate setting ("PBR") attributes. PBR is subject to change as the Company's regulatory framework evolves.

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2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Regulation (continued)

Electricity revenue is billed at rates approved by the BCUC and is bundled to include the cost of generating, transmitting and distributing electricity. In addition, the rate includes customer service as well as other corporate and service functions.

When the BCUC issues decisions affecting the financial statements, the effects of the decision are recorded in the period in which the decision is received.

The Company's consolidated financial statements have been prepared in accordance with GAAP, including certain treatments that differ from that for enterprises not subject to rate regulation.

2007 Revenue Requirements

On December 20, 2006, the BCUC approved a 1.2% customer rate increase for 2007 effective January 1, 2007. The approved 2007 Revenue Requirements include an allowed Return on Equity ("ROE") of 8.77% (2006 allowed ROE was 9.20%). At that time, the BCUC ordered a separate submission concerning a change in the treatment of financing costs of large capital projects during the period of construction, which FortisBC submitted on January 5, 2007.

On March 9, 2007, the BCUC issued an order requiring FortisBC to change the treatment of financing costs of large capital projects during the period of construction. The decision allowed for an effective 2.1% incremental customer rate increase over the original 2007 rate increase of 1.2%. Because the rate increase was not implemented until April 1, 2007, the increase relating to the period January 1, 2007 through March 31, 2007 will be recovered in 2008 customer rates and has been recorded in other revenue in the first quarter of 2007 as a PBR incentive adjustment. As a result of the BCUC order, the customer rate increase effective April 1, 2007 is 3.3%.

Use of estimates

The preparation of financial statements in accordance with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the dates of the financial statements and the reported amounts of revenues and expenses during the period. The estimates relate to unbilled electricity deliveries, the useful life of property, plant and equipment, goodwill, asset retirement obligations and employee future benefits, among other things. Certain estimates are also necessary since the regulatory environment in which the Company operates often requires amounts to be recorded at estimated values until finalization and adjustment, if any, is determined pursuant to subsequent regulatory decisions or other regulatory proceedings. By their nature, these estimates are subject to measurement uncertainty. The effect on the financial statements of changes in such estimates in future periods could be material and are recorded in the period they became known.

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3. PROPERTY, PLANT AND EQUIPMENT

	Cost	Accumulated Depreciation	Book Value June 30, 2007	Book Value December 31, 2006
Generation	**$ 171,011**	**$ 41,070**	**$ 129,941**	$ 129,048
Substations	**223,820**	**47,238**	**176,582**	178,809
Transmission	**128,903**	**28,268**	**100,635**	98,094
Distribution	**274,884**	**61,896**	**212,988**	205,852
General	**108,180**	**44,291**	**63,889**	64,458
Asset under capital lease	**27,228**	**3,874**	**23,354**	23,808
Construction work in progress	**76,469**	**-**	**76,469**	31,166
Total	**$ 1,010,495**	**$ 226,637**	**$ 783,858**	$ 731,235

4. DEBT

	June 30, 2007	December 31, 2006
Secured Debentures		
Series E 11.0% due December 1, 2009	**$ 5,250**	$ 5,250
Series F 9.65% due October 16, 2012	**15,000**	15,000
Series G 8.8% due August 28, 2023	**25,000**	25,000
WPP mortgage 9.44% due October 31, 2013	**5,507**	5,817
	50,757	51,067
Unsecured Debentures		
Series H 8.77% due February 1, 2016	**25,000**	25,000
Series I 7.81% due December 1, 2021	**25,000**	25,000
Series J 6.75% due July 31, 2009	**50,000**	50,000
Series 04-1 5.48% due November 28, 2014	**140,000**	140,000
Series 05-1 5.60% due November 9, 2035	**100,000**	100,000
	340,000	340,000
Operating credit facility	**66,025**	20,968
Overdraft facility and outstanding cheques	**4,823**	21,558
Princeton Light & Power Company, Limited demand facility	**-**	4,480
	70,848	47,006
Total debt	**461,605**	438,073
Less: current portion of debt	**41,240**	27,424
	420,365	410,649
Less: deferred financing costs	**3,604**	-
Long-term debt	$ **416,761**	$ 410,649

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4. DEBT (continued)

Secured and unsecured debentures

The Series E, F and G secured debentures are collateralized by a fixed and floating first charge on the assets of the Company. The secured Series E, F, G and unsecured Series H, I and J debentures are guaranteed by FortisWest Inc., a subsidiary of Fortis.

The Company adopted the new accounting standards for financial instruments on January 1, 2007. Deferred financing costs of $3.6 million have been recorded as an offset to the debt balances at June 30, 2007. As of December 31, 2006, the deferred financing costs were recorded in deferred charges and other assets.

Operating credit facility

On May 8, 2007, the Company amended its operating credit facility provided by a syndicate of Canadian chartered banks. The amended operating credit facility is comprised of a $50.0 million, three-year revolving facility maturing on May 12, 2010 (“Facility A”) and a $100.0 million, 364-day revolving facility maturing May 8, 2008 (“Facility B”). Two years prior to the current Facility A maturity date, the Company may request an extension of the maturity date for Facility A for a further period of 364 days and if the request for extension is not granted, all amounts outstanding under Facility A become due on the Facility A maturity date. Similarly, prior to the current Facility B maturity date, the Company may request the lenders to extend the term for an additional 364 days and if the request for extension is not granted, Facility B will automatically convert into a non-revolving term credit facility that will mature six months from that date. The operating credit facility also allows the Company to request that the lenders provide up to $50.0 million of additional financing under Facility A or Facility B or a combination of the two facilities.

As at June 30, 2007, $31.0 million (December 31, 2006 - $21.0 million) has been drawn on Facility A and $35.0 million (December 31, 2006 - $nil) has been drawn on Facility B.

Borrowings under the operating credit facility bear interest at prime or the certificate of deposit offered rate for bankers’ acceptances plus a margin based on FortisBC’s debt ratings provided by certain major credit rating agencies. The interest rate on the balance outstanding at June 30, 2007 is 6.0% (December 31, 2006 - 4.94%).

The operating credit facility is also available to support letters of credit. As at June 30, 2007, letters of credit were issued in the amount of $4.6 million (December 31, 2006 - $4.6 million).

Overdraft facility

The overdraft facility is an unsecured $10.0 million demand credit facility which bears interest at prime. The interest rate on the balance outstanding at June 30, 2007 is 6.0% (December 31, 2006 - 6.0%). As at June 30, 2007, $4.8 million has been drawn on the overdraft facility. As at December 31, 2006, $7.2 million was drawn on the overdraft facility and outstanding cheques of $14.4 million had been issued.

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4. DEBT (continued)

Affiliate demand notes

During the first quarter of 2007, the Company borrowed $31.0 million by way of two 4.57% demand notes from Fortis. The demand notes were repaid in June 2007. During the three and six months ended June 30, 2007, the Company expensed interest on the demand notes of $0.2 million (three months ended June 30, 2006 - $nil) and $0.5 million (six months ended June 30, 2006 - $nil) respectively.

5. SHARE CAPITAL

FortisBC has issued and outstanding 1,518,510 common shares (December 31, 2006 – 1,518,510 common shares), all of which are owned by Fortis Inc. through its indirect wholly owned subsidiary, Fortis Pacific.

There were no changes to share capital during the three and six months ended June 30, 2007 and June 30, 2006.

During the three and six months ended June 30, 2007, FortisBC paid dividends of $2.9 million (three months ended June 30, 2006 - $2.5 million) and $5.8 million (six months ended June 30, 2006 - $5.0 million) to its parent company, Fortis Pacific.

6. RELATED PARTY TRANSACTIONS

In addition to transactions and balances disclosed elsewhere, in the normal course of business the Company transacts with its parent and other related companies under common control. The following transactions were measured at the exchange amount.

	Three Months Ended June 30		Six Months Ended June 30	
	2007	**2006**	**2007**	**2006**
Revenues charged to related parties	**$ 243**	$ 913	**$ 378**	$ 2,052
Operating costs charged by related parties	**484**	669	**804**	1,095
Operating costs recovered from related parties	**2,767**	860	**3,933**	1,982
Interest expense on debt	**225**	-	**480**	-
Capital costs charged from related parties	**-**	30	**-**	92

	As at June 30 2007	As at December 31 2006
Included in accounts receivable	**$ 1,361**	$ 975
Included in accounts payable	**320**	181

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6. RELATED PARTY TRANSACTIONS (continued)

The revenues charged represent electricity and services sold to related parties. The operating costs charged consist of information technology expenses, contract and direct labour charges, meter shop charges, and corporate governance costs. The operating recoveries consist of labour and materials charges to the Company's parent and other related parties. Capital costs charged in 2006 consist of distribution upgrades and new customer connects performed by the former Princeton Light & Power Company, Limited, which was acquired by FortisBC on December 31, 2006 and wound up on January 1, 2007. During the first quarter of 2007, affiliate demand notes from Fortis totalling $31.0 million were issued. The demand notes were repaid in June 2007. Except as disclosed elsewhere in these financial statements, the amounts due to and from the Company's parent and other related companies under common control are unsecured and due on demand.

During the second quarter of 2007, the Company entered into an agreement to lease an office building owned by a related party company, Terasen Gas Inc. During the initial five-year term of the lease commencing January 1, 2008, the Company will make annual payments of approximately $0.2 million. The Company has two options to renew the lease for subsequent five-year terms.

7. CHANGES IN NON-CASH WORKING CAPITAL

	Three Months Ended June 30		**Six Months Ended June 30**	
	2007	2006	**2007**	2006
Changes in non-cash working capital:				
Accounts receivable	**$ 7,742**	$ 6,010	**$ 13,606**	$ 4,116
Prepaid expenses	**1,537**	670	**257**	305
Deferred charges and other assets	**(213)**	(11)	**(232)**	53
Income taxes recoverable / payable	**(141)**	(1,073)	**264**	612
Materials and supplies	**54**	(42)	**75**	23
Accounts payable and accrued liabilities	**(2,342)**	2,121	**4,600**	3,938
Accrued interest	**(2,398)**	(2,391)	**(7)**	-
	4,239	5,284	**18,563**	9,047
Changes in non-cash working capital attributable to:				
Operating activities	**1,069**	3,433	**12,308**	11,333
Investing activities	**3,170**	1,851	**6,255**	(2,286)
	$ 4,239	$ 5,284	**$ 18,563**	$ 9,047

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8. PENSION BENEFITS

During the three and six months ended June 30, 2007, the Company recorded defined benefit pension expenses of $1.0 million (three months ended June 30, 2006 - $1.1 million) and $1.9 million (six months ended June 30, 2006 - $2.2 million).

9. CONTINGENCIES

The Provincial Ministry has alleged breaches of the Forest Practices Code and negligence relating to a forest fire near Vaseux Lake and has filed and served a Writ and Statement of Claim against FortisBC. In addition, the Company has been served with two Writs and Statements of Claim by private land owners in relation to the same matter. The Company is currently communicating with its insurers and has filed a Statement of Defence in relation to all of the actions. The outcome cannot be reasonably determined and estimated at this time, and accordingly no amount has been accrued in the financial statements.

FortisBC was served a Writ and Statement of Claim filed with the B.C. Supreme Court under the Class Proceedings Act, 1995 on behalf of a class consisting of all persons who were customers of FortisBC and who paid or had been charged FortisBC's late payment penalties at any time between April 1, 1981 and the date of any judgment in this action. The claim was that forfeitures of the prompt payment discount offered to customers constituted "interest" within the meaning of s. 347 of the Criminal Code and, since the effective annual rate of such interest exceeded 60%, they were illegal and void. In the action the Plaintiff sought damages and restitution of all late payment penalties which were forfeited. On December 13, 2006, the application to certify the action as a class action was heard in the B.C. Supreme Court. In a decision delivered on January 11, 2007, the B.C. Supreme Court dismissed the application to certify the action as a class action. The Plaintiff filed an appeal of the decision with the Court of Appeal of British Columbia. The Plaintiff's appeal was abandoned on May 29, 2007, and a Consent Dismissal Order was entered on June 6, 2007 dismissing the proceeding without costs to either party.

10. FINANCIAL INSTRUMENTS

The carrying values of the Company’s financial instruments compared to their fair values are as follows:

- The fair values of cash, accounts receivable, damage deposits, employee loans, accounts payable and accrued liabilities, operating credit and overdraft facilities, and affiliate demand notes approximate their carrying values due to the short-term maturity of these instruments.
- The fair values of energy management loans and the obligation under capital lease approximate their carrying values since their interest rates are comparable to market rates.
- Since the Company has classified secured and unsecured debentures and mortgage obligations as “*Other Financial Liabilities*”, the Company has measured these debt instruments at amortized cost using the effective interest method as required under CICA Handbook Section 3855. As at June 30, 2007, the fair value of these liabilities exceeded the carrying value by $27.8 million (December 31, 2006 - $45.7 million).

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11. SUBSEQUENT EVENT

On June 22, 2007, the Company filed a final short form prospectus and entered into an agreement with a syndicate of underwriters, pursuant to which the Company agreed to sell $105.0 million of senior unsecured debentures. The debentures bear interest at a rate of 5.90%, to be paid semi-annually and mature on July 4, 2047. The closing of this issuance occurred on July 4, 2007, with the net proceeds of $103.9 million being used to repay existing indebtedness incurred under the bank operating credit facilities and for general corporate purposes, including future capital expenditures.

12. COMPARATIVE FIGURES

Certain comparative figures have been reclassified to comply with the current period's classifications.

OFFICE LEASE AGREEMENT

This Agreement dated June 28, 2007

BETWEEN:

Terasen Gas Inc., having an office at 16705 Fraser Highway, Surrey, British Columbia V4N 0E8

("Terasen")

AND:

FortisBC Inc., having an office at 5th Floor, 1628 Dickson Avenue, Kelowna, British Columbia V1Y 9X1

("Tenant")

NOW THEREFORE THIS LEASE WITNESSES that in consideration of the Rent, covenants and agreements herein contained, Terasen and the Tenant hereby covenant and agree as follows:

SECTION 1. INTERPRETATION

1.1 Definitions. In this Lease, unless the context otherwise requires:

a) "Commencement Date" means the earlier of the first day of the following month after the City of Kelowna has issued a final inspection report in connection with Terasen's improvements or January 1, 2008.

b) "Contaminants" means any radioactive materials, asbestos materials, urea formaldehyde, underground or aboveground tanks, pollutants, contaminants, deleterious substances, dangerous substances or goods, hazardous, corrosive or toxic substances, special waste or waste of any kind or any other substance the storage, manufacture, disposal, treatment, generation, use, transport, remediation or Release into the Environment of which is now or hereafter prohibited, controlled or regulated under Environmental Laws;

c) "Environment" includes the air (including all layers of the atmosphere), land (including soil, sediment deposited on land, fill and lands submerged under water) and water (including oceans, lakes, rivers, streams, groundwater and surface water);

d) "Environmental Laws" means any and all statutes, laws, regulations, orders, bylaws, standards, guidelines, permits and other lawful requirements of any federal, provincial, municipal or other governmental authority having jurisdiction over the Lands now or hereafter in force with respect in any way to the Environment, health, occupational health and safety, product liability or transportation of dangerous goods, including the principles of common law and equity;

e) "Event of Default" means any one of the following: the Tenant's failure to pay the Rent when due hereunder, the Tenant's failure to observe or perform any of the covenants, provisos or agreements in this Lease on its part to be observed or performed for seven days (or such time as may be necessarily required by the Tenant to remedy such default) after Terasen has given notice to the Tenant in writing stating the default with reasonably sufficient particulars and requiring it to be remedied, the Tenant's falsification of any report required to be furnished to Terasen pursuant to the terms of this Lease, the Tenant's bankruptcy or insolvency or filing of any proposal in respect of the same, the appointment of a receiver or receiver-manager of all or a portion of the Tenant's property, the Tenant's abandonment of the Premises or its allowing the Premises to be unoccupied or used for a use or in a manner other than as provided in Section 3, or if any of the Tenant's assets are taken under any writ of execution;

f) "Lease" means this instrument, as amended from time to time, all certificates issued by or for Terasen related to this Lease and the rules and regulations made from time to time by Terasen under the provisions of Section 15, and the expressions "hereof", "herein", "hereto", "hereunder", "hereby" and similar expressions refer to this Lease as a whole and not to any particular Section, Subsection or other subdivision;

g) "Lease Year" means a 12-month period commencing on that day and month on which the Commencement Date occurs in one calendar year and ending on that day and month which is 12 months next following in the next succeeding calendar year, provided that the first Lease Year shall commence on the Commencement Date and the last Lease Year shall end on the last day of the Term;

h) "Parties" means Terasen and the Tenant;

i) "Premises" includes that portion of 2nd Floor of the building situate at 1975 Springfield Road ("2nd Floor") and 3rd Floor of the building situate at 1975 Springfield Road ("3rd Floor"), in the City of Kelowna, in the Province of British Columbia, legally described as:

PID 017-369-843
Lot 2, DL 129, ODYD Plan KAP45185
(the "Lands")

which Premises shall be deemed to have a rentable area of 17,725 square feet as shown outlined in heavy black on the floor plans attached hereto as Schedule "A". For greater certainty, the Premises' boundary is at the top surface of the structural subfloor and, as such, the Tenant is not responsible for anything beneath the top surface of the structural subfloor or beyond the inner surface of the walls on the perimeter of the outer walls of the Premises;

j) "Release" includes any release, spill, leak, pumping, pouring, emission, emptying, discharge, injection, escape, leaching, migration, disposal or dumping;

k) "Rent" means the annual rent payable by the Tenant pursuant to Subsection 4.1 and, in addition, includes:

i) Real Property Taxes. All real property, municipal and other property taxes and rates, whether general or special, of any nature whatsoever, including school or local improvement taxes and rates, levied or assessed by any lawful authority against the Premises and equipment and improvements from time to time therein, or against Terasen on account of its ownership thereof;

ii) Utility Charges. All charges for water, sewer, gas, and electricity supplied to or used or consumed by the Tenant in the Premises; and

(iii) Parking. All maintenance associated with the provision of parking;

l) "Term" means the term of this Lease set out in Subsection 2.2 and any extension thereof and any period of permitted overholding.

1.2 Included Words. The singular of any term includes the plural, and vice versa, the use of any term is generally applicable to any gender and, where applicable, to a corporation, the word "or" is not exclusive and the word "including" is not limiting whether or not non-limiting language (such as "without limitation" or "but not limited to" or words of similar import) is used with reference thereto.

1.3 Headings. The headings to the Sections and Subsections of this Lease are inserted for convenience only and do not form a part of this Lease and are not intended to interpret, define or limit the scope, extent or intent of this Lease or any provision hereof.

1.4 Cross-References. Unless otherwise stated, all references in this Lease to a designated "Section", "Subsection" or other subdivision is to the designated Section, Subsection or other subdivision of this Lease.

1.5 Statutes. Unless otherwise stated, any reference to a statute includes and is a reference to such statute and to the regulations made pursuant thereto, with all

amendments made thereto and in force from time to time, and to any statute or regulations that may be passed which supplement or supersede such statute or such regulations.

1.6 References to Successors Included. Any reference to a corporate entity includes and is also a reference to any corporate entity that is a successor to such entity.

1.7 No Contra Proferentum. The language in all parts of this Lease shall in all cases be construed as a whole and neither strictly for nor strictly against either of the Parties.

SECTION 2. GRANT

2.1 Demise. Terasen hereby demises and leases to the Tenant the Premises, together with the visitor parking stalls on the unsecured parking lot on the front of the building in which the Premises are situate. Employee parking will be provided on both the unsecured parking lot on the front and the secured parking lot on the back of the building on first come first serve basis.

2.2 Term. The term of this Lease shall be 60 months, commencing on the Commencement Date. The Tenant shall have access to the 2nd Floor as of October 15, 2007 and to the 3rd Floor as of September 1, 2007 for the purpose of making leasehold improvements. The Tenant's work under this Subsection shall be done in accordance with Section 7.

The Tenant shall have the right to terminate the Lease without penalty by providing Terasen with no less than three (3) months prior written notice at any time after thirty-six (36) months of the initial term.

2.3 Preparation of Premises. The Tenant acknowledges that it has inspected the Premises, is fully familiar with the condition thereof, and accepts the Premises (including any equipment, fixtures or furniture contained therein).

SECTION 3. USE OF PREMISES

3.1 Use of Premises. The Tenant shall use the Premises solely for general office and administrative offices uses, and shall use the Premises for no other purpose without Terasen's prior written consent, which consent shall not be arbitrarily withheld. Terasen acknowledges that the Tenant's Affiliates will be occupying the Premises as well.

3.2 Continuous Use. The Tenant shall continuously throughout the Term make use of the Premises only for general office purposes.

SECTION 4. RENT

4.1 Rent. The Tenant agrees to pay to Terasen an annual Rent in the sum of $221,562.50 plus GST, payable in advance in equal monthly installments of $18,463.54 plus GST on the first day of each month during each Lease Year of the Term. If the Term commences on any day other than the first or ends on any day other than the last day of a month, Rent for the fractions of a month at the commencement and at the end of the Term shall be adjusted pro-rata.

4.2 Place of Payment. The Rent required to be paid to Terasen shall be paid at the office of Terasen set forth in Subsection 18.5, or at such other place designated in writing by Terasen, in lawful money of Canada, without any prior demand therefor and without any abatement (except as otherwise set forth in this Lease) deduction, set-off or counterclaim whatsoever.

4.3 Interest. The Tenant covenants to pay upon demand interest on any arrears of the Rent or of costs, charges or expenses that may arise under Subsections 9.3 and 13.2 at the rate declared by The Toronto-Dominion Bank, Main Branch, Vancouver, British Columbia, to be its "prime rate" plus 5%, computed from the date due until paid. Such interest shall be deemed be included in the term "Rent".

4.4 Abatement of Rent for Late Occupancy. If due to the failure of Terasen to substantially complete the work indicated under Subsection 2.3 or to make available the services which Terasen is hereby obliged to furnish to the Tenant, the Premises or any part thereof are not ready for occupancy on the Commencement Date, no part of the Rent, or if the Tenant shall occupy a part of the Premises, only a proportionate part thereof shall be payable for the period before the date when the entire Premises are ready for occupancy, and the full Rent shall accrue only after such last mentioned date. After Terasen's obligations have been fulfilled, the Tenant shall not be entitled to any abatement of the Rent for any delay in occupancy due to the Tenant's failure to complete its installations or other work.

4.5 Terasen's Contribution Towards Tenant's Improvements. Upon completion of the work and the submission of all supporting invoices for same, Terasen agrees to pay to the Tenant a contribution of up to a maximum of $25,000 on account of one-half (1/2) of the total costs of the Tenant's Improvements for lighting and fixtures made to the third (3rd) floor of the Premises.

SECTION 5. TAXES AND OTHER CHARGES

5.1 Business Taxes and Licence Fees: In each and every year during the Term, the Tenant shall pay and discharge when the same become due and payable, all taxes, rates, duties and assessments and other charges that may be levied, rated, charged or assessed against or in respect of all improvements, equipment and facilities of the Tenant in the Premises, and every tax and licence fee in respect of every activity carried on thereat or in respect of the use or occupancy

thereof by the Tenant, other than such taxes as corporate, income, profits or excess profits taxes assessed upon the income of Terasen and any and all taxes, rates, duties, assessments, licence fees and other charges which may in future be levied in lieu of the same.

5.2 Goods and Services Tax. The Tenant shall pay all goods and services tax or other tax in lieu thereof (except income tax) payable by Terasen or the Tenant with respect to the Rent. Even though such taxes are not Rent, if the Tenant fails to pay such taxes promptly when due, Terasen shall have all remedies for the collection of such taxes, when in arrears, as are available to Terasen for collection of Rent in arrears.

5.3 Evidence of Payment. The Tenant covenants and agrees that, upon request of Terasen, the Tenant will promptly deliver to Terasen for inspection, receipts for payment of all taxes, rates, duties, assessments, licence fees and other charges in respect of all improvements, equipment and facilities which are due and payable under this Section 5.

SECTION 6. MAINTENANCE OF THE PREMISES AND THE LANDS

6.1 Maintenance by Tenant. The Tenant shall at all times during the Term at its own cost and expense maintain the Premises and any improvements from time to time made to the Premises in good order and repair, reasonable wear and tear, structural repairs, damage caused by other tenants and damage by fire, lightning and tempest, or other casualty against which Terasen is insured excepted. The Tenant shall ensure that the Premises are kept reasonably clean by a janitorial service to be employed by and at the expense of the Tenant.

6.2 Right of Entry. Terasen and its agents shall have the right to enter the Premises at any time upon reasonable notice to the Tenant to examine the same and to make such repairs as Terasen may deem necessary. Terasen and its agents must have representative of the Tenant present on entering the space or approved after hour access. Terasen shall be allowed to take all material into and upon the Premises that may be required therefor without the same constituting an eviction of the Tenant in whole or in part and the Rent reserved shall in no way abate by reason of loss or interruption of the use of the Premises by the Tenant or otherwise while said repairs are being made. Nothing herein contained, however, shall be deemed or construed to impose on Terasen any obligation, responsibility or liability whatsoever for the care, maintenance or repair of the Premises or Lands or any part thereof except as otherwise herein specifically provided.

SECTION 7. INSTALLATIONS AND FIXTURES

7.1 Installations by Tenant. The Tenant shall not make or cause to be made any

installations, improvements, additions or alterations on or in respect of the Premises without first obtaining Terasen's written approval and consent which shall not be unreasonably withheld. The Tenant shall present to Terasen plans and specifications for such work at the time approval is sought and the work shall be carried out in a good and workmanlike manner. Such work may be done at such times and in such manner as Terasen may from time to time designate.

7.2 Leasehold Improvements and Fixtures. All improvements and the Tenant's fixtures (except unattached trade fixtures) relating to the Premises shall immediately upon being installed in or brought onto the Premises become the property of Terasen without compensation to the Tenant. All unattached trade fixtures, furnishings, equipment and inventory in the Premises not removed at the end of the Term will then become the property of Terasen without compensation to the Tenant.

7.3 Removal and Restoration by the Tenant. The Tenant may remove its trade fixtures and other goods, chattels and equipment being the property of the Tenant upon the expiration of the Term or otherwise in the ordinary course of carrying on its business, but otherwise all installations, improvements, additions and alterations made by the Tenant shall not be removed without the prior written consent of Terasen, provided, however, Terasen may at any time require the Tenant at its expense to remove any such installations, improvements, additions and alterations from the Premises and, in such event, the Tenant shall repair damage to the Premises occasioned by such removal.

7.4 Tenant to Discharge all Liens. The Tenant shall promptly pay all of its contractors, suppliers and materialmen and shall do all things necessary so as to minimize the possibility of a lien attaching to the Lands and, should any such lien be made or filed as a direct result of work performed for or materials supplied to the Tenant at the Premises, the Tenant shall discharge the same within ten days thereafter at its expense and shall indemnify and save harmless Terasen therefrom.

7.5 Signage. The Tenant may not erect or affix any signs or lettering of any nature whatsoever upon the interior or exterior walls, windows or roof of the Premises without the prior written consent of Terasen, such consent not to be unreasonably withheld.

7.6 Use of UPS and Generator Access. The current space has dedicated electrical outlets that access UPS and Generator back-up. Terasen will allow the Tenant use of these outlets but does not provide any warranties as to the reliability of the electric outlets. Terasen shall complete an annual check on the UPS and Generator systems and replace any faulty parts. Terasen shall provide one (1) week notification to the Tenant prior to the testing of these systems.

SECTION 8. INSURANCE AND INDEMNITY

8.1 Insurance. The Tenant shall, during the access period set out and permitted in

Subsection 2.2 and for the extent of the Term, take out and keep in full force and effect:

(a) comprehensive public liability and property damage insurance on an occurrence basis against claims for personal injury, death or property damage suffered by persons arising out of or with respect to the Premises in an amount not less than $2,000,000 per occurrence; and

(b) tenant's insurance in respect of fire and extended coverage in relation to the Tenant's property and all its business and trade fixtures, machinery and equipment, cabinet work, furniture, moveable partitions, cabling and wiring owned or installed by the Tenant at its expense in the Premises and lawfully removable by it upon the expiry of the Term herein.

All policies shall be at the Tenant's sole cost and expense and the policy set out in Subsection 8.1(a) above shall name Terasen and any persons, firms or corporations designated by Terasen as additional insureds as their interests may appear. All policies shall contain a clause that the insurer will not cancel or change or refuse to renew the insurance without first giving Terasen not less than thirty (30) days' prior written notice. The insurance shall be with insurers licensed to practice in British Columbia and reasonably acceptable to Terasen and with policies in a form reasonably satisfactory to Terasen and copies of all policies or certificates of insurance shall be forthwith delivered to Terasen. All policies shall contain a waiver of subrogation clause, a severability of interest and cross liability clause and shall be non-contributing with, and shall apply only as primary and not as excess to, any other insurance available to Terasen. Any amounts referred to above may be required by Terasen to be increased from time to time to limits which Terasen considers reasonable.

8.2 Notice by Tenant. The Tenant shall give immediate notice to Terasen in case of any fire or accident on the Premises, notwithstanding that Terasen may have no obligations with respect thereto.

8.3 Cancellation of Insurance. Without limiting the Tenant's obligations under Subsection 8.1, the Tenant shall remedy any condition that may give rise to the cancellation, threatened cancellation or reduction of any insurance policy applicable to the Premises.

8.4 Indemnification of Landlord. The Tenant shall indemnify Terasen and save it harmless from and against any and all claims, actions, damages, liability and expense in connection with any and all loss of life, personal injury or damage to or loss of or destruction of property arising from or out of any occurrence in, upon or at the Premises or any part thereof, or which is occasioned wholly or in part by any negligent act or omission of the Tenant, its agents, contractors, employees, servants, licensees or concessionaires or by anyone permitted to be on the Premises by the Tenant, including the general public.

8.5 Landlord's Insurance. Terasen shall, during the Term, take out and keep in full

force and effect:

(a) building insurance on and all risk basis against loss or damage by fire, flood, sewer and drain backup and earthquake on a full replacement cost basis with extensions for increased costs of rebuilding due to bylaws and codes; and

(b) comprehensive boiler and machinery and equipment insurance including all boilers, pressure vessels, air-conditioning equipment and electrical transformers on a full replacement cost basis with extensions for increased costs of rebuilding due to bylaws and codes.

The insurance shall be with insurers licensed to practice in British Columbia and shall contain a waiver of subrogation clause, a severability of interest and cross liability clause.

8.6 Exclusion of Landlord's Liability for Loss and Damage. Terasen shall not be liable for any death, injury, loss or damage of or to the Tenant or others, or to their property located in the Premises, except in the case of negligence of Terasen or its wilful misconduct. All property of the Tenant kept on or stored in the Premises shall be so kept or stored at the risk of the Tenant only. The Tenant shall hold Terasen harmless from any claims arising out of any of the matters mentioned in this Subsection.

SECTION 9. ENVIRONMENTAL RESPONSIBILITY

9.1 Tenant's Covenants. The Tenant hereby covenants and agrees that it shall:

(a) at its own cost, comply with and assume all duties, obligations and liabilities under all federal, provincial and municipal laws, regulations and bylaws from time to time in force regarding the manufacture, transportation, storage and disposal of Contaminants in respect of its use of the Premises; and

(b) not use the Premises or permit the Premises to be used for the sale, storage, manufacture, disposal, handling, treatment, generation, use, transport, refinement, processing, production, remediation, release into the Environment of, or any other dealing with, any Contaminants, except in compliance with Environmental Laws.

9.2 Removal of Contaminants. If the Tenant has failed to observe or perform any of the covenants contained in Subsection 9.1 of this Lease in any respect (the "Tenant's Environmental Non-Compliance") and upon receipt of written notice thereof from Terasen, the Tenant shall, at its own cost and in accordance with Environmental Laws, commence within twenty (20) days of such notice and thereafter diligently proceed to perform all remedial work (the "Remedial Work")

required to make the Premises and the Lands free of Contaminants, except in amounts permissible under Environmental Laws, and to restore the Premises to a condition deemed suitable for use and occupation, as determined by Terasen.

9.3 Landlord's Right to Cure and Charge Expenses. If the Tenant fails to commence and perform the Remedial Work as required in Subsection 9.2, Terasen may perform all or any part of the Remedial Work. The Tenant shall reimburse Terasen for all expenses incurred by Terasen in performing the Remedial Work within twenty (20) days of receipt of invoices for those expenses, failing which, interest shall accrue on such indebtedness at the rate provided in the Lease.

9.4 Rates During Remedial Work. If the Premises or any part thereof are rendered unfit for use and occupancy by the Tenant for the purpose of its business under this Lease as a result of the Tenant's Environmental Non-Compliance, all Rent payable by the Tenant under this Lease shall continue to be due.

9.5 Termination. Where all or a substantial portion of the Premises are rendered unfit for use and occupancy by the Tenant for the purpose of its business under this Lease, as determined by Terasen, as a result of the Tenant's Environmental Non-Compliance and the Remedial Work cannot, in the reasonable opinion of an independent environmental consultant chosen by Terasen, be completed within a period of one hundred and twenty (120) days after receipt of the notice of non-compliance from Terasen pursuant to Subsection 9.4, Terasen may, by written notice to the Tenant within thirty (30) days of delivery of Terasen's environmental consultant's opinion, terminate this Lease, in which event the Tenant shall deliver up possession of the Premises in accordance with this Lease.

9.6 Indemnity by Tenant. The Tenant shall indemnify and save harmless Terasen, its directors, officers, shareholders, employees, agents, successors and assignees from and against:

(a) any and all reasonable costs and expenses incurred by Terasen in taking any Remedial Action;

(b) any and all reasonable costs and expenses incurred by Terasen in conducting any audits, investigations, tests or surveys reasonably required in the taking of Remedial Action under this Section 9;

(c) any and all liabilities, losses, claims, damages (including lost profits, consequential damages, interest, penalties, fines and monetary sanctions) and costs provided always that Terasen may settle or compromise any claim or litigation as it sees fit;

(d) any and all legal fees and expenses on a solicitor-client basis and accountants', engineers' and other professional consultants' fees and expenses; and

(e) any and all reasonable costs associated with any legal or administrative action, proceeding, investigation, demand, claim or notice of any third party, including without limitation any governmental authority, against any one or more of them pursuant to or under Environmental Laws;

suffered or incurred by Terasen by reason of or resulting from or in connection with, or arising in any manner whatsoever out of the breach of any covenant or the inaccuracy of any representation of the Tenant contained in this Section 9.

9.7 Survival. The obligations of the Tenant under this Section 9 (including the Tenant's indemnity) shall continue in full force and effect notwithstanding the expiry or earlier termination of this Lease. The obligations of the Tenant under this Section 9 are in addition to and shall not limit, any other obligations of the Tenant contained in this Lease.

9.8 Waiver of Claim. The Tenant waives and revokes any future claim against Terasen and Terasen's directors, officers, shareholders, employees, agents, subtenants, successors and assigns for losses, claims, (including remediation cost recovery claims) damages (including lost profits, consequential damages, interest, penalties, fines or monetary sanctions) and costs in any way arising from acts of Terasen or its employees or agents permitted under this Section 9.

SECTION 10. WASTE, NUISANCE AND OBSERVANCE OF LAW

10.1 Waste and Nuisance. The Tenant shall not suffer or permit any act or neglect which may in any manner, directly, cause injury or damage to the Premises or to any improvements thereto or which may interfere with the use of any property or the comfort of any person occupying any property in the vicinity of the Premises.

10.2 Observance of Laws. The Tenant shall, at the Tenant's sole cost and expense, comply with the requirements of all federal, provincial and municipal laws, regulations, statutes, ordinances and bylaws from time to time in force pertaining to its use and occupancy of the Premises.

SECTION 11. LANDLORD'S COVENANTS

11.1 Landlord's Covenants. Upon payment by the Tenant of the Rent herein provided, and upon observance and performance of all covenants, terms and conditions on the Tenant's part to be observed and performed, Terasen hereby covenants with the Tenant:

a) for quiet enjoyment of the Premises for the Term without hindrance or interruption by Terasen, or any other person or persons lawfully claiming by, through or under Terasen;

b) to pay all real property taxes from time to time payable by Terasen and levied or assessed against the Premises;

c) to provide reasonable security measures on the Premises;

d) to collect the appropriate amount of goods and services tax (or other tax in lieu thereof) from the Tenant and remit same to the appropriate District Taxation Office of Revenue Canada within the prescribed time;

e) to keep in good repair and condition at all times during the Term of the Lease, at Terasen's cost and expense the building in which the Premises forms a part including, the foundation, all load bearing, exterior and common area walls, the subfloor and other structural elements, ceilings, drains, doors, locks, windows, plumbing, heating, ventilation, air-conditioning, lighting, electrical and sewage systems therein;

f) to provide to the Tenant at all times during normal business hours air - conditioning and heating at temperatures and with distribution as is reasonably necessary for the comfortable occupancy of the Premises; provided that if the apparatus or any of it used in effecting the air conditioning and heating of the Premises at any time becomes incapable of cooling or heating the Premises to the requisite extent, or is damaged, or in the opinion of Terasen requires repairs, inspection, overhauling or replacement, Terasen shall repair , inspect, overhaul or replace the apparatus with all reasonable dispatch;

g) to keep the sidewalks, parking stalls, entrances, and the means of access between those entrances and the public highway reasonably free and clear of snow and ice, and in a fit state to be traversed by the Tenant;

h) to maintain the grounds in good order; and

i) If the Premises or any portion thereof are damaged or destroyed by fire or by other casualty, Rent shall abate in proportion to the area of that portion of the Premises which, in the opinion of Terasen's architect or professional engineer, is thereby rendered unfit for the purposes of the Tenant until the Premises are repaired and rebuilt, and Terasen shall repair and rebuild the Premises. Terasen's obligation to repair and rebuild shall not include the obligation to repair and rebuild any chattel, fixture, leasehold improvement, installation, addition or partition in respect of which the Tenant is required to maintain insurance hereunder, or any other property of the Tenant. Rent shall recommence to be payable sixty days after Terasen notifies the Tenant that the Tenant may reoccupy the Premises for the purpose of undertaking its work.

j) Notwithstanding Section 11.1 (i):

(a) if the Premises or any portion thereof are damaged or destroyed by any cause whatsoever and cannot, in the reasonable opinion of

Terasen, be rebuilt within ninety days of the damage or destruction, Terasen may terminate this Lease by giving to the Tenant, within thirty (30) days after such damage or destruction, notice of termination, and thereupon Rent and other payments hereunder shall be apportioned and paid to the date of such damage or destruction, and the Tenant shall immediately deliver up vacant possession of the Premises to Terasen; and

(b) in the event of damage or destruction occurring by reason of any cause in respect of which proceeds of insurance are substantially insufficient to pay for the costs of rebuilding the Premises or are not payable to or received by Terasen or, in the event that Terasen is not able to obtain all necessary governmental approvals and permits to rebuild the Premises, Terasen may elect, within thirty (30) days of such damage or destruction, on written notice to the Tenant, to terminate this Lease, and the Tenant shall immediately deliver up vacant possession of the Premises to Terasen.

k) Any decisions regarding the extent to which the Premises has become unfit for use shall be made by an architect or professional engineer appointed by Terasen, whose decision shall be final and binding on the parties.

l) In performing any reconstruction or repair, Terasen may effect changes to the Premises and its equipment and systems. Terasen shall have no obligation to grant to the Tenant any Tenant's allowances to which it may have been entitled at the beginning of the Term, and shall have no obligation to repair any damage to Leasehold Improvements or the Tenant's fixtures.

SECTION 12. EXPROPRIATION

12.1 Effect of Expropriation. If during the Term the Lands on which the Premises is situate, or any part thereof, shall be acquired or condemned by expropriation for any public or quasi-public use or purpose, then Terasen and the Tenant may separately claim, receive and retain awards of compensation for the loss of their respective interests, if any, but neither Terasen nor the Tenant shall have any claim against the other in respect of the said loss or any unexpired portion of the Term.

SECTION 13. DEFAULT

13.1 Landlord's Remedies on Event of Default. Upon the happening of an Event of Default, Terasen may exercise any right or remedy it may have in law or in equity, including any the following:

(a) Terasen shall have the immediate right to re-enter the Premises and remove all persons and property from the Premises. Terasen may remove and store such property for the account of the Tenant or sell such property, all without service of notice or resort to legal process and without being deemed guilty of trespass, or becoming liable for any loss or damage which may be occasioned thereby and to have, again repossess and enjoy the Premises as of its former estate. Further, if Terasen re-enters the Premises prior to the expiry of this Lease by reason of the neglect or default by the Tenant, the Tenant shall be liable to Terasen for the amount of the Rent, for the remainder of the Term, as if such re-entry had not been made, less the actual amount received by Terasen after such re-entry in respect of any subsequent leasing applicable to the remainder of Term. Further, Terasen shall be entitled to take such action by way of a claim for damages or otherwise for the payment of all such monies;

(b) whether Terasen terminates this Lease or not, Terasen may recover from the Tenant all damages it may incur by reason of such breach, including the cost of recovering the Premises, solicitor's fees, and including the worth at the time of such termination of the excess, if any, of the amount of the Rent reserved in this Lease for the remainder of the Term over the then reasonable rental value of the Premises for the remainder of the Term, all of which amounts shall be immediately due and payable from the Tenant to Terasen; and

(c) if the Tenant fails or neglects to pay the Rent, or part of it, when due hereunder, whether hereby expressly reserved or deemed as such, Terasen may, without notice or any form of legal process whatsoever, enter upon the Premises and seize, remove and sell the Tenant's goods, chattels, fixtures, furnishings, equipment and inventory thereon and seize, remove and sell any goods, chattels, fixtures, furnishings, equipment and inventory at any place to which the Tenant or any other person may have removed them in the same manner as if they had remained and been distrained upon the Premises, all notwithstanding any rule of law or equity to the contrary. Terasen shall not exercise its rights of seizure unless it has given the Tenant written notice of the Tenant's default and a reasonable time to cure such default.

13.2 Landlord's Right to Cure Defaults. If from time to time the Tenant neglects or fails to perform any of its covenants, obligations or agreements under this Lease, Terasen may, but shall not be obliged to, perform or remedy the same for the account of, and at the risk of the Tenant. In particular, but without limiting the generality of the foregoing, Terasen may:

(a) take out or keep in force any insurance this Lease obliges the Tenant to take out and keep in force and remedy any condition giving rise to the

cancellation, threatened cancellation or reduction of any insurance policy arising out of or with respect to the Premises;

(b) pay any amount this Lease obliges the Tenant to pay but which the Tenant neglects or fails to pay; and

(c) upon the expiry or sooner termination of the Term, remove from the Premises the Tenant's trade fixtures and other goods, chattels and property and repair any damage to the Premises occasioned by such removal where the Tenant fails to do so with reasonable dispatch;

and may without notice enter upon the Premises for that purpose. Terasen shall not be liable to the Tenant for any loss, damage or inconvenience to the Tenant, to its use of the Premises, to the Premises, or to the improvements, furnishings, equipment or inventory thereon caused by the acts or omissions of Terasen in performing or remedying or attempting to remedy such default. The Tenant shall promptly pay to Terasen on demand the amount of all costs, charges and expenses reasonably incurred by Terasen in connection with such default or in remedying or attempting to remedy such default.

13.3 Landlord's Remedies Cumulative. All rights and remedies of Terasen in this Lease contained shall be cumulative and not alternative.

13.4 Waiver. No condoning, excusing or overlooking by Terasen or the Tenant of any default, breach or non-observance by Terasen or the Tenant at any time or times in respect of any covenant, proviso or condition herein contained shall operate as a waiver of Terasen's or the Tenant's rights hereunder in respect of any continuing or subsequent default, breach or non-observance, or so as to defeat or affect in any way the rights of Terasen or the Tenant herein in respect of any such continuing or subsequent default, breach or non-observance, and no waiver shall be inferred from or implied by anything done or omitted by Terasen or the Tenant save only express waiver in writing.

SECTION 14. ASSIGNMENT AND SUBLETTING

14.1 Prohibition on Assignment by Tenant. The Tenant shall not assign this Lease in whole or in part, nor sublet nor part with possession of all or any part of the Premises directly or indirectly, unless Terasen has given its prior consent, such consent not to be unreasonably withheld. The prohibitions in this Subsection shall be construed to include a prohibition against any assignment or subletting by operation of law, including amalgamations. No receipt of notice of any such assignment, subletting or parting with possession or the collection of rent thereafter shall be deemed to be a waiver of this covenant by Terasen or an acceptance of the assignee, sublessee or new occupant as tenant.

14.2 Release of Landlord on Sale or Assignment. If Terasen sells the Lands on which the Premises is situate or assigns this Lease or any interest of Terasen hereunder, and to the extent that any purchaser or assignee has assumed the covenants and obligations of Terasen hereunder, Terasen shall without further written agreement be freed and relieved of liability upon such covenants and obligations except as set out in Section 9 and, if requested the Tenant shall provide Terasen with an acknowledgement in writing, binding upon the Tenant, that Terasen is freed and relieved of liability upon such covenants and obligations.

14.3 Attornment by Tenant on Sale. Terasen may sell, transfer or otherwise dispose of the Lands and Premises, or any portion thereof, to any person, and in such event the Tenant shall attorn to and become the Tenant of such party under the terms of this Lease and the Tenant shall provide such party with an acknowledgement in writing binding upon the Tenant that it will perform the covenants and obligations of the Tenant hereunder.

SECTION 15. RULES AND REGULATIONS

15.1 Rules and Regulations. Except where they may be inconsistent with or contrary to the terms of this Lease, any reasonable rules and regulations adopted and promulgated by Terasen from time to time are hereby made a part of this Lease and the Tenant agrees to comply with and observe the same. The Tenant's failure to keep and observe such rules and regulations shall constitute a breach of this Lease in the manner and as if the same were contained herein as covenants. Written notice of such rules and regulations and any amendments or supplements from time to time thereto, if any, shall be given to the Tenant and it agrees thereupon to comply with and observe all such rules and regulations and amendments thereto and supplements thereof, provided that no such rules and regulations shall contradict any provisions of this Lease.

15.2 The obligations of Terasen and the Tenant are subject to each party obtaining and maintaining any necessary regulatory approvals necessary for the performance of this Lease. The parties agree to use all reasonable efforts to obtain and maintain such regulatory approvals and to co-operate with and assist one another as reasonably necessary in seeking the approvals. If such regulatory approvals are required and not obtained, either party may terminate the Lease by providing the other party with three (3) months written notice.

SECTION 16. STATUS STATEMENT, ATTORNMENT, SUBORDINATION

16.1 Status Statement. Within ten (10) days after request therefor by Terasen, or in the event of any sale, assignment or mortgage of the Lands or Premises, the Tenant agrees to deliver, in a form supplied by Terasen, a certificate to any proposed purchaser, assignee or mortgagee, or Terasen, certifying (if such be the case) that this Lease is in full force and effect and that there are no defences

or setoffs thereto, or stating those claimed by the Tenant.

16.2 Attornment. So long as the Tenant's occupation and possession of the Premises is not disturbed, the Tenant shall, in the event any proceedings are brought for the foreclosure of, or in the event of the exercise of the power of sale under any mortgage made by Terasen covering, the Lands and Premises, attorn as Tenant to the mortgagee or the purchaser upon any such foreclosure or sale and recognize such mortgagee or purchaser as landlord under this Lease.

16.3 Subordination. This Lease is and shall be subordinate at all times to any mortgage or mortgages granted by Terasen and any lien resulting from any other method of financing or refinancing now or hereafter in force against the Lands and Premises, and to all advances made or hereafter to be made upon the security thereof. At the request of the Tenant, Terasen shall use its reasonable efforts to obtain from Terasen's mortgagees and chargeholders a covenant not to disturb the occupation and possession by the Tenant of the Premises, so long as the Tenant shall not be in default (beyond any period permitted to cure such default) in the performance of any material terms, covenants, conditions, agreements and provisos on the part of the Tenant to be observed, kept or performed under this Lease.

SECTION 17. OPTION TO RENEW AND TO LEASE ADDITIONAL SPACE

17.1 Option. If Terasen, upon the expiry of the Term, elects to continue to lease the Premises, the Tenant, provided it has duly and regularly paid the Rent and observed and performed each of the covenants, provisos and agreements on its part to be kept, observed and performed up to the end of the then current term of this Lease, shall have the option to renew the Lease, for two additional terms of five (5) years each (the "Renewal Term(s)"). The first Renewal Term shall be on the same terms and conditions as the initial Term except for the Rent which will be increased by 30%. The second Renewal Term shall be on the same terms and conditions as the initial Term except for the Rent and this option to renew. The rental for the second Renewal Term shall be based on the prevailing fair market rental for improved premises of similar size, quality, use and location as agreed between the parties and failing such agreement, as determined by arbitration pursuant to the *Commercial Arbitration Act*. The Tenant shall give written notice of the Tenant's intent to exercise such option to renew to Terasen no later than 6 months before the expiry of the initial Term, failing which, such option to renew shall be null and void and incapable of exercise.

17.2 Additional space. At any time during the Term or the Renewal Term, the Tenant may elect to lease an additional 5,200 square feet (approximately) of space on the second floor contiguous to the Premises by providing Terasen with no less than three (3) months notice prior to the time Terasen is required to make the space available to the Tenant. The rent for any additional space shall be computed at the same annual rate per square foot as the rent for the Premises

defined in Section 1 of this Agreement and shall commence on the date Terasen has made the additional space available to the Tenant for occupancy and this lease shall be amended accordingly.

SECTION 18. MISCELLANEOUS

18.1 No Tacit Renewal. In the event that the Tenant remains in possession of the Premises after the end of the Term without the execution and delivery of a new lease, and Terasen accepts Rent, there shall be no tacit renewal of this Lease and the Term and the Tenant shall be deemed to be occupying the Premises as a Tenant from month to month upon the same terms and conditions as are set forth in this Lease, so far as the same are applicable to a monthly tenancy.

18.2 Successors. All rights and liabilities herein given to, or imposed upon, the respective Parties hereto shall extend to and bind the respective heirs, executors, administrators, successors and assigns of the said Parties, and if there be more than one tenant, they shall all be bound jointly and severally by the terms, covenants and agreements herein. No rights, however, shall enure to the benefit of any assignee of the Tenant, such assignments being prohibited pursuant to Subsection 14.1 hereof.

18.3 Entire Agreement. This Lease sets forth all of the covenants, promises, conditions, agreements and understandings between Terasen and the Tenant with respect to the subject matter hereof. Except as herein otherwise provided, no subsequent alteration, amendment, change or addition to this Lease shall be binding upon Terasen or the Tenant unless reduced to writing and signed by them.

18.4 Force Majeure. Save as otherwise herein provided, in the event that either party hereto shall be delayed or hindered in or prevented from the performance of any act required hereunder by reason of strikes, lock-outs, labour troubles, inability to procure materials, failure of power, restrictive governmental laws or regulations, riots, insurrection, war or other reason of a like nature not the fault of the party delayed in performing work or doing acts required under the terms of this Lease, and not a delay caused by lack of funds or other financial reason, then performance of such act shall be excused for the period of the delay and the period for the performance of any such act shall be extended for the period of such delay.

18.5 Notices. Any notice, demand, request or other instrument which may be or is required to be given under this Lease, shall be delivered in person or sent by fax or registered mail postage prepaid and shall be addressed as follows:

(a) If to Terasen:

Terasen Gas Inc.
Facilities Department
16705 Fraser Highway

Surrey, British Columbia
V4N 0E8

Attention: Manager, Facilities

(b) If to the Tenant:

FortisBC Inc.
1290 Esplanade
Trail, British Columbia
V1R 4L4

Attention: Linda Douglas

or to such other address as Terasen or the Tenant may designate by written notice from time to time. Any such notice, demand, request or consent shall be conclusively deemed to have been given or made on the day upon which such notice, demand, request or consent is delivered or faxed or, if mailed, on the fifth business day following the date of the mailing unless there is between the day of mailing and actual receipt a mail strike, slow down of postal service or other labour dispute which adversely affects mail service, in which case the party giving the notice shall personally deliver or fax such notice, demand, request or consent, and in such case the time of giving such notice, demand, request or consent will be the time of actual receipt.

18.6 Governing Law. This Lease shall be construed and governed by the laws of the Province of British Columbia and the laws of Canada applicable therein. The Parties hereby irrevocably submit and attorn to the jurisdiction of the courts of the Province of British Columbia.

18.7 Time. Time shall be of the essence in this Lease.

18.8 Relationship between Terasen and Tenant. Terasen and the Tenant agree that nothing contained in this Lease, nor any acts of Terasen or the Tenant in connection with this Lease, shall be deemed to create any relationship between Terasen and the Tenant other than the relationship of landlord and tenant.

18.9 Severability. If any term or condition of this Lease or the application thereof to any person or circumstance shall, to any extent, be held to be invalid or unenforceable, the remainder of this Lease and the application of that term or condition to persons or circumstances other than those as to which it is held invalid or unenforceable, shall not be affected thereby and each term and condition of this Lease shall be valid and enforced to the fullest extent permitted by law.

18.10 Counterparts. The Lease may be executed in any number of counterparts, each of which when executed and delivered will be deemed to be an original and all of which counterparts, taken together, will be deemed to be one and the same

instrument. The execution of this Lease will not become effective until all counterparts, as the case may be, have been executed by all the parties to this Lease. A copy of this Lease delivered by facsimile or other electronic transmission and bearing a copy of the signature of a party to this Lease shall for all purposes be treated and accepted as an original copy thereof.

IN WITNESS WHEREOF the Parties have executed this Agreement

Terasen Gas Inc.

By: _____
(Signature)

Name: Robert M. Samels
(Printed)

Title: V.P. Business Services

FortisBC Inc.

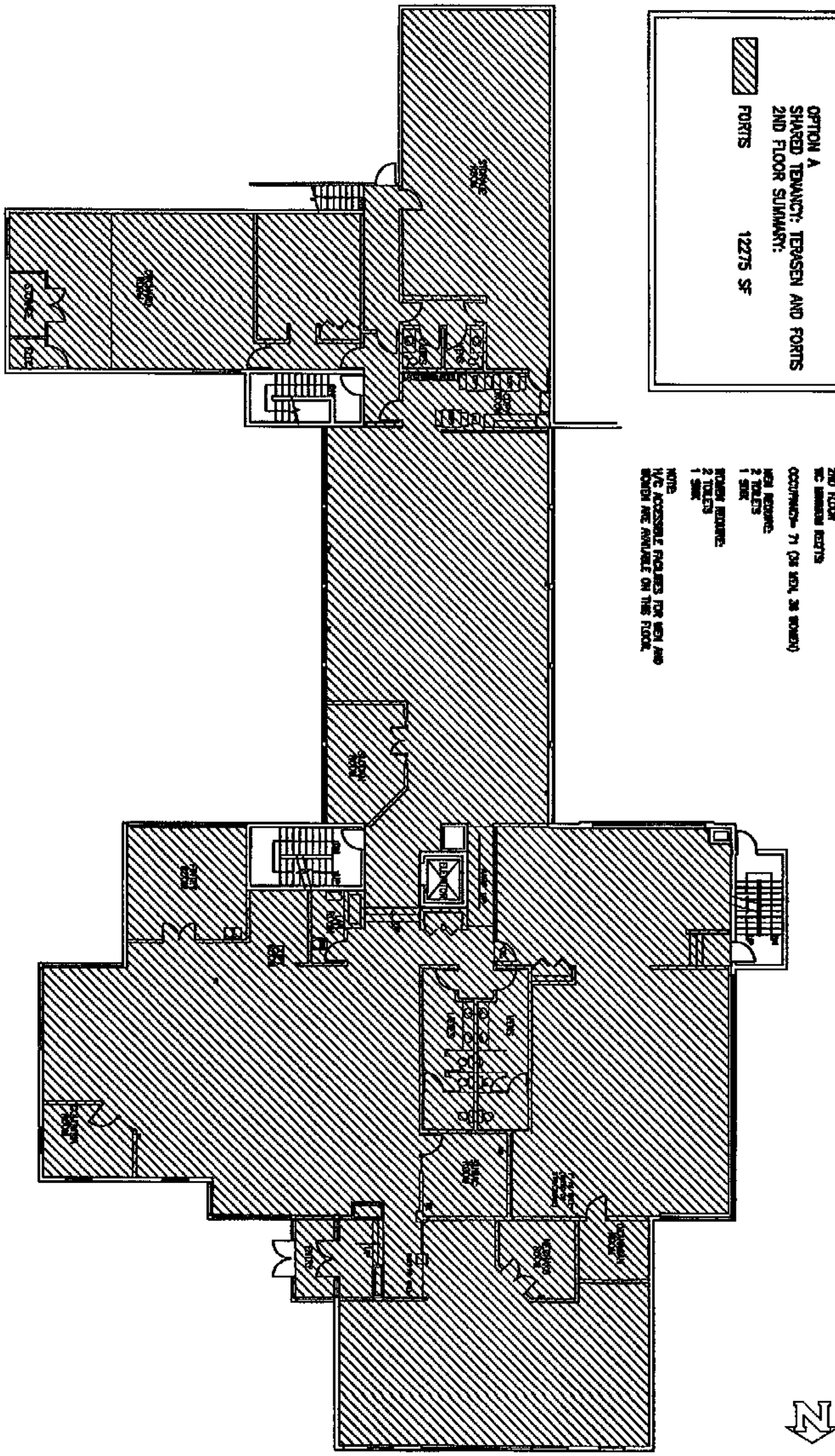
By: _____
(Authorized Signatory)

Name: John C. Walker
(Printed)

Title: President & CEO

Schedule "A"

Floor Plans



OPTION A
SHARED TENANCY: TERASEN AND FORTIS
2ND FLOOR SUMMARY:

FORTIS 12275 SF

OPTION A
2ND FLOOR
[illegible]

OCCUPANCY= 71 (36 MEN, 36 WOMEN)

MEN REQUIRE:
2 TOILETS
1 SINK

WOMEN REQUIRE:
2 TOILETS
1 SINK

NOTE:
H/C ACCESSIBLE FACILITIES FOR MEN AND WOMEN ARE AVAILABLE ON THIS FLOOR.

SSDG Seeton Shinkewski Design Group Ltd, Suite 300, 1111 Melville Street, Vancouver, B.C. Canada V6E 3V6, T. 604-688-4500, F. 604-688-0600			project: TERASEN GAS, 1975 SPRINGFIELD ROAD, KELOWNA BC
			subject: 2ND FLOOR, OPTION A – SPACE PLAN
01	revision	JUNE 15/07	
no.	revision	date	
project no. 6209	date drawn JUNE 14/07	scale 1/16" = 1'-0"	drawn JC / checked – / ID 2 OF 3

OPTION A
SHARED TENANCY: TERASEN AND FORTIS
3RD FLOOR SUMMARY:

FORTIS 5450 SF

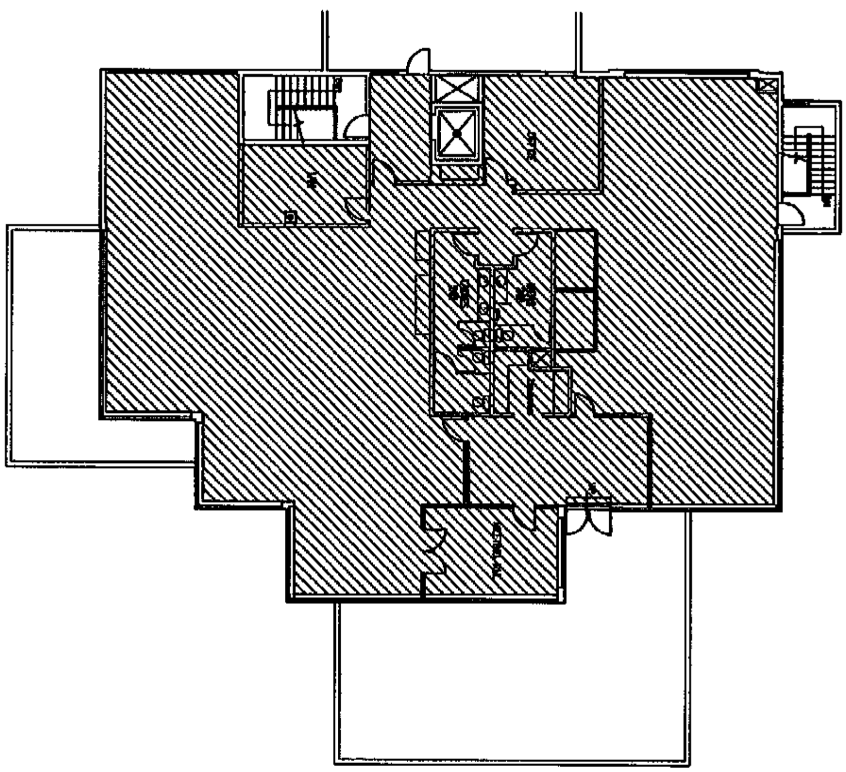
OPTION A
3RD FLOOR
WC MINIMUM REQ'TS:

OCCUPANCY= 24 (12 MEN, 12 WOMEN)

MEN REQUIRE:
1 TOILET
1 SINK

WOMEN REQUIRE:
1 TOILET
1 SINK

NOTE:
H/C ACCESSIBLE FACILITIES FOR MEN AND
WOMEN ARE AVAILABLE ON 2ND FLOOR.



SSDG Seeton Shinkewski Design Group Ltd, Suite 300, 1111 Melville Street, Vancouver, B.C. Canada V6E 3V6, T. 604-688-8888, F. 604-684-0856	01 revision JUNE 15/07; no. revision date	project: TERASEN GAS, 1975 SPRINGFIELD ROAD, KELOWNA BC	
		subject: 3RD FLOOR, OPTION A – SPACE PLAN	
project no. 6209	date drawn JUNE 14/07	scale 1/16" = 1'-0"	drawn JC; checked –; ID 3 OF 3

Terasen Kelowna				
GVA Worldwide				
8/15/2006				
Address	1763 Harvey Ave	1500 Hardy	1634 Harvey	
PROPOSED RENTABLE AREA:				
Square Feet	1,810	4,000	4,050	
Comments				
	9 offices, ground floor	Third Floor office	Second floor office	
PARKING:				
	Available	Available	Available	
BASE RENTAL RATE:				
ANNUAL BASE RENTAL RATE PER SQUARE FOOT (psf.)	$12.00	$16.00	$10.50	
ADDITIONAL RENT:				
ANNUAL ADDITIONAL RENTAL RATE PSF INCL: REAL ESTATE TAXES. BUILDING OP. EX.		$6.69	$6.50	
TENANT IMPROVEMENT ALLOWANCE:				
Per SF AFTER BASE BUILDING COSTS	N/A	N/A	N/A	
Rent				
Annual Basic	$21,720.00	$64,000.00	$42,525.00	
Total Gross		$90,760.00	$68,850.00	
Monthly Gross		$7,563.33	$5,737.50	
Comments				
		Larger space avaialable	Larger space avaialable	

Classification of Major Event Days

Prepared by: Cheryl A. Warren, James D. Bouford, Richard D. Christie, Dan Kowalewski, John McDaniel, Rodney Robinson, David J. Schepers, Joseph Viglietta, Charlie Williams,
Senior Members, IEEE
On behalf of the Working Group on System Design

Abstract-- A paper that explores the basis, need, and benefit of classifying reliability performance relative to major events. Today, many internal and external goals are set based on reliability performance. Internal as well as external comparison is difficult to make due to variations in weather, collection methods, and a plethora of other variables. The Working Group on System Design has developed a statistics based methodology that classifies reliability data into normal and major event days. After classification, analysis can be performed on each data set using separate processes to arrive at sound business decisions and to make internal comparisons possible. This paper describes the newly developed methodology, the "Beta Method".

Index Terms— Distribution Reliability, Major Event Day, 2.5 Beta Methodology, lognormal statistical approach, Storms.

I. Introduction

Deregulation and re-regulation have led electric utility regulators and customers alike to scrutinize the electric power industry. Claims of improved service for less cost have been used to foster deregulation. Regulators have tried to ensure a continuation, and in some cases, an improvement in electric service reliability under the new operating environment. Electric utility executives have endeavored to continue to maintain service levels without increasing cost, and in some cases, by decreasing expenditures. As a result both internal and external goals have been set around reliability performance, yet there has been no uniform methodology for removing events that are so far away from normal performance that they are known as outliers. Without removal of such events, the variation in annual performance is too great to set meaningful targets. This paper discusses the need to classify reliability performance. Normalizing reliability data will reduce the variability, thus making trending/goal setting possible. It will also segment performance during large-scale events so that appropriate post analysis can be performed.

Distribution re-regulation has been sweeping the country as evidenced[1] by Figure 1.

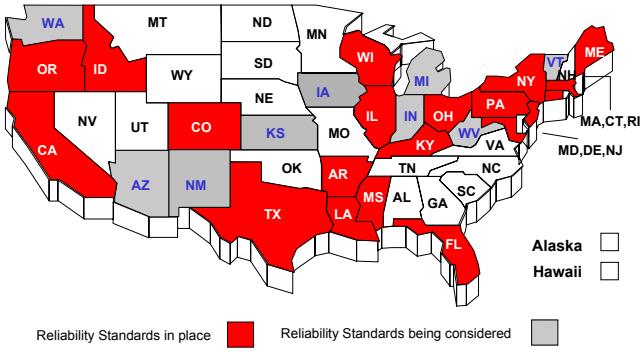


Figure 1. US States involved with distribution reliability regulation.

A few short years ago, only a hand full of states had formal distribution reliability reporting requirements. Today, the number has grown to over half of all US states and is continuing to rise. Some regulators have initiated extensive reporting requirements. Many regulators review not only annual statistics, but also lists of worst performing circuits, reliability expenditures and a variety of other detailed data items. Some states have extended regulatory boundaries to require utilities to purchase outage management systems ("OMS"). It is clear, that executives and regulators alike require a reasonable method for tracking and reporting reliability performance, a method that provides information for proper decision-making.

The IEEE Working Group on System Design, the group that authored the *Full-Use Guide on Electric Power Distribution Reliability Indices-1366-2001*, has recently developed a statistics based methodology (herein referred to as the "Beta Method") for identifying outlying performance (otherwise known as Major Event Days or MEDs). The method is known as the "Beta Method" because of its use of the naturally occurring log normal distribution that best describes reliability performance data, where Beta is a key parameter. Using the Beta Method, utilities can calculate indices on both a normalized and unadjusted basis (identifies abnormal performance). Appropriate decision-making can be performed on each set of indices. Normalized indices provide metrics that can, and should, be used for both internal and external goal setting. Unadjusted indices, when compared to the normalized indices, provide information about utility performance during major events. The Beta method identifies the occurrence of abnormal

This paper was produced by the Working Group on System Design. Please see the last section of the paper for group membership.

[1] "*Reliability on the Regulatory Horizon*" by Cheryl A. Warren and Michael J. Adams, Presented by Charlie Williams at the IEEE T&D Conference in Atlanta 2001.

conditions that grossly affect the reliability of a system and using it allows the investigation of utility performance during major events. Events that may be included in unadjusted information are major weather events, major substation events, or unexpected catastrophic events such as earthquakes. Major events are events that are beyond the design and/or operational limits of a utility. It is anticipated that both executives and regulators will scrutinize those events that cause MEDs and take appropriate action to mitigate their future impact on reliability. There could be cases where no additional action is required, as would be the case when an event was beyond control and beyond the design and/or operation limits of the utility (e.g., Class 4 hurricane).

II. Methodology Development

The Working Group is comprised of over 100 active members from thirty-one states and six countries that hail from universities, utilities, regulatory agencies and consultancies. The Working Group has spent the last two years creating a methodology that would:

- Be fair to all utilities regardless of size,
- Allow segmentation of reliability data into normal and abnormal categories, based on the identification of outlier events that cause Major Event Days,
- Allow use of normalized indices for internal and external goal setting,
- Be consistent for various amounts of data availability and for all utilities, and
- Be easy to understand and execute.

Many working group members anonymously provided their outage data for methodology development. A contingent of volunteer members from the working group performed rigorous analysis on all provided data while evaluating the efficacy of a number of proposed methods. Before the final methodology was chosen, several other methods were developed and abandoned due to their inability to meet the criteria noted above. Rich Christie authored "*Statistical Classification of Major Reliability Event Days in Distribution Systems*", a paper that describes some of the thinking. The working group has selected the Beta Method as the method best meeting the above criteria.

III. The Beta Method

The method is easily applied to reliability data and can be set up to run automatically from an OMS, or be manually applied by using MS Excel™ and/or MS Access™. Its purpose is to allow major events to be studied separately from reliability performance that occurs during what would be considered normal operation, and, to better reveal trends in normal operation that would be hidden by the large statistical effect of major events.

The Beta Method is used to identify major event days. A major event day is a day in which daily SAIDI exceeds a threshold value T_{MED}.

In calculating daily SAIDI, interruption durations that extend into subsequent days accrue to the day on which the interruption begins. This technique simplifies calculations and ties the customer-minutes of interruption to the instigating event.

The major event day identification threshold value T_{MED} is calculated at the end of each reporting period for use during the next reporting period. For utilities that have six years of reliability data, the first five are used to determine T_{MED} and that threshold is applied during the sixth year. The methodology follows:

1. Values of daily SAIDI for a number of sequential years, ending on the last day of the last complete reporting period, are collected. Consistency of future results is enhanced if five or six years of data are used, but, if fewer than five years of historical data are available, all of the available complete year, historical data should be used. Use of more than six years of data may distort the effects of major events and minimize the impact of the analysis.

2. If any day in the data set has a value of zero for SAIDI, do not include that day in the analysis.

3. The natural logarithm (ln) of each daily SAIDI value in the data set is calculated.

4. The average of the logarithms, α (Alpha), (also known as the log-average) of the data set is calculated.

5. The standard deviation of the logarithms, β (Beta), (also known as the log-standard deviation) of the data set is calculated.

6. The major event day threshold, T_{MED}, is calculated by using the equation:

$$T_{MED} = e^{(\alpha + 2.5\beta)}$$

(Note that this value should in theory give, on average, 2.3 major event days per year. In practice, using the donated utility data, higher numbers of major event days per year, from two to eight, are seen. This is not unexpected since the actual data does not conform precisely to the log-normal distribution.)

7. Any day that occurs during the subsequent reporting period with daily SAIDI greater than the threshold value T_{MED} is designated a major event day. The data for this day should be removed when calculating normal reliability performance.

It is the group's recommendation that major event day performance be reviewed in a different, possibly more rigorous, manner than normal day performance.

SAIDI was chosen as the metric in order to capture the effects on customer minutes interrupted ("CMI") or duration of events. SAIDI is the division of CMI and total customers served. Dividing by total customers served allows utilities to use the methodology even after a merger has occurred. Despite the fact that SAIDI is used as the metric to determine MEDs, the methodology is applied to all indices.

Because the methodology classifies all performance into two data sets, 1) normal performance and 2) abnormal performance, it cannot favor a poorly performing utility. All data is provided in one of the two classifications. It is up to executive management and regulators to review both data sets to draw conclusions about overall performance.

IV. Examples of the Methodology Results

For a detailed calculation example please refer to *Draft 9 of the Full-Use Guide on Electric Power Distribution Reliability Indices 1366-D9*. Using data provided by member utilities, two illustrative examples are presented here. Utility 4 used three years of data to determine threshold values while Utility 10 used seven years of data.

A. Example 1 - Utility 4

Figure 2 and Figure 3 show analysis results from Utility 4. The lower light blue bars show the normalized values for SAIFI and CAIDI. Utility 4 is required to report SAIFI and CAIDI, not SAIDI to their regulator. The upper orange bars show the contribution from abnormal events to SAIFI and CAIDI. The summation of the two bars is the total system SAIFI and CAIDI or unadjusted SAIFI and CAIDI. Note that normalized SAIFI performance was constant, with no more than 3% variation from year to year. The normalized CAIDI was relatively constant, with no more than an 8% variation. Unadjusted, SAIFI varied 11% from year to year and CAIDI varied between 56% and 70% over the period.

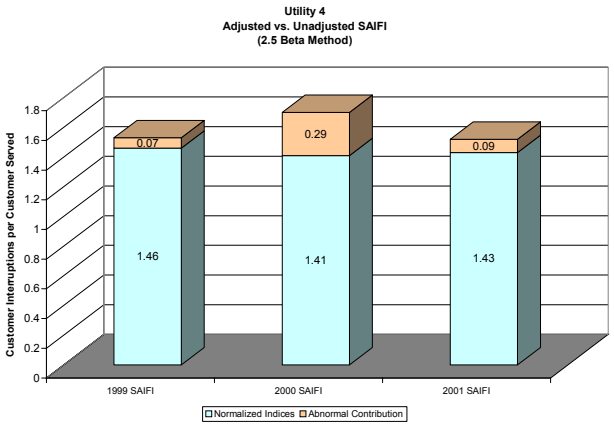


Figure 2. Utility 4 SAIFI

Figure 3 illustrates the significance of identifying abnormal events. In evaluating three years of provided data, it is evident that 2000 had the most major event activity. In this case major event days were caused by weather. For that year (2000), over 42% of the utility's overall CAIDI could be attributed to the abnormal event CAIDI. Notice that normalized CAIDI was fluctuating within a reasonable band (no more than 8% variation from year to year). It is likely that the system is performing within acceptable design and or operational limits. The fact that major event contributions vary from year-to-year is to be expected, and may be directly correlated to weather variations. If the major event variation is due to conditions within the utility's control, then executives and regulators should take appropriate action. . Furthermore, if over time there is indeed a true and sustained change in the weather patterns affecting a utility's service territory, this "normalization" process will reflect (and include) that change. If that occurs, then there are strong and supported reasons for the utility to change it operating practices.

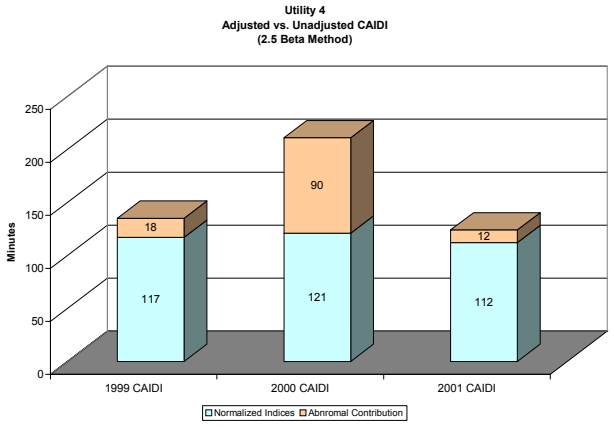


Figure 3. Utility 4 CAIDI

Figure 3 is a clear example of why normalizing indices is critical to customers, regulators and internal utility goals. If the unadjusted data were used to target spending, then this utility might be focused on the wrong issues (e.g., events that occurred as a result of one major storm and are unlikely to occur again in the foreseeable future).

B. Example 2 - Utility 10

Figure 4 and Figure 5 show results from Utility 10. SAIFI, even adjusted, is still increasing at a steep rate, while CAIDI is oscillating and is fairly constant. Given this type of information, executives from this utility may alter spending and action plans if no recent IT systems changes have been implemented that might account for the steep rate of SAIFI change. If this utility recently implemented a fully connected outage management system that more accurately captures reliability information, then these graphs could be explainable by that fact alone. It is well known that after fully connected IT systems are implemented, that reliability appears to worsen since more accurate information is being collected. For this example, we assume that no system changes occurred.

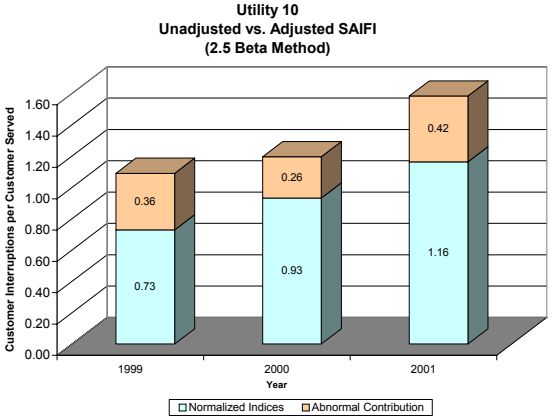


Figure 4. Utility 10 SAIFI

Figure 4 shows unadjusted CAIDI varies as much as 69% while adjusted CAIDI varies only as much as 28% a year for this utility. While 28% is a high percentage, it is significantly better than unadjusted statistics. This information may indicate crew overload on major event days. It appears that the major events were significant enough to completely saturate crew availability and thus restoration efforts were excessively delayed.

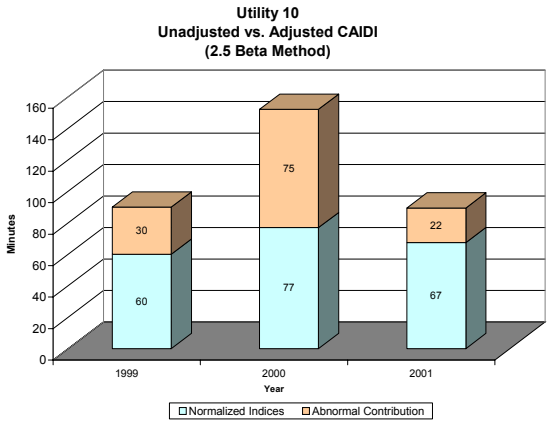


Figure 5 Utility 10 CAIDI

C. Example 3 – Worst Performing Circuits

Many state regulators are requesting reports on worst performing circuits ("WPC"). Typically, all interruption data is used to determine the WPC list. The number of circuits reported to regulators across the US varies from 4% to 10% of the total circuits on the system with each state allowing different reliability data adjustments. There are only a few states, at the present time that review circuit performance based on storm-adjusted or major event classified information. Consequently, utilities may be required to investigate solutions to problems that would only occur during a major event. This may not be the most cost-effective approach. The Beta Method will allow utilities to apply worst performing circuit criteria to adjusted data, thus identifying circuits that are most likely to remain worst performing if actions are not taken. In cases where WPC criteria is applied to all events, circuits often become members of this group due to one extreme event. Using non-classified data seems to defeat the regulatory purpose, which presumably is to solve repetitive reliability issues on problem circuits.

This paper has provided two simple examples using the Beta Methodology. During methodology development, many utilities used the beta method on their own data and determined it to be a fair methodology. It is important to remember that when using the 2.5 Beta Method, ***no data is excluded***, instead it is classified, analyzed and reported upon using separate processes.

V. Benefit Summary

Daily, decisions are made at utilities based on perceived risk versus anticipated reward. The Beta Method provides a mechanism to segment information into appropriate categories allowing different decision paths to occur. It is the hope of this group that classification will result in better business decision-making. Regulators, utilities, and customers benefit from the Beta Method

because it segments reliability performance to reveal trends that utilities can then address.

A large group, with representation from all interested parties, created this methodology. The Beta Method allows utilities and regulators to confidently set goals/targets based on normal, and expected future performance. It also provides a technique to review performance during severe events.

VI. Working Group Members

Cheryl A. Warren* - Chair
***** Indicates participation on sub group that performed analysis and wrote text.

John Ainscough - Xcel Energy
Greg Ardrey - Alliant Energy
Ignacio Ares - Florida Power & Light Company
Gene Baker - Florida Power Corp. MT3B
John Banting - Cooper Power Systems
Jerry Batson - Alliant Energy
Steve Benoit - Minnesota Power
Lina Bertling - Royal Institute of Technology
Roy Billinton, D.Sc., P.Eng. - University of Saskatoon
Dave Blew - PSEG
Math Bollen - Chalmers University of Technology
James D. Bouford - National Grid*
Richard Brown - ABB
Joe Buch - Madison Gas and Electric
James Burke - ABB
Ray Capra - Consultant
Mark Carr - AEP
Donald M. Chamberlin - Northeast Utilities
Jim Cheney - Arizona Public Service
Simon Cheng - Puget Power
Dave Chetwynd - BC Hydro
Ali Chowdhury - MidAmerican Energy
Richard D. Christie, Ph. D. - University of Washington*
Rob Christman - FPL
Larry Conrad - Cinergy Corp
Ed Cortez - Stoner Associates Inc.
Grace Couret - Florida Power & Light Company
Tim Croushore - Allegheny Power System
Peter Daly - Power System Engineering
Rich D'Aquanni - Applied Resources Group Inc.
Bill Day - Distribution Management Consultants
Al Dirnberger - TXU
R. Clay Doyle - El Paso Electric
Russ Ehrlich - Conectiv
Charlie Fiajnvandratt - Navigant Consulting, Inc.
Doug Fitchett – American Electric Power
Robert Fletcher - Snohomish County PUD
Mahmud Fotuhi-Firuzabad - University of Saskatoon
Keith Frost – Exelon – Commonwealth Edison
Chris Gedemer – Advantica Stoner
Peter Gelineau – Canadian Electricity Association
David Gilmer – Yampa Valley Electric Association
Jeff Goh – PG&E
Manuel Gonzalez – Reliant Energy
John Grainger – University of North Carolina
Don Hall – CES International
Mark Halpin – Mississippi State University
Dennis Hansen – PacifiCorp
Randy Harlas – El Paso Electric Company
Mostafa Hassani – PEPCO
Harry Hayes – Ameren
Charles Heising – Alaska Power & Telephone Company
Eric Helt – Exelon – PECO Energy
Richard Hensel - Consumers Energy Company
Jim Hettrick - MidAmerican Energy
Francis Hirakami - Hawaiian Electric Company
Dennis B. Horman - Utah Power & Light Co.
George E. Hudson - Virginia Power
Brent Hughes - BC Hydro
Joseph Hughes - Electric Power Research Institute
Carol Jaeger - Puget Power
Kevin Jones - Advantica Stoner
Karim Karoui - Tractebel
Mark Kempker - AES - IPALCO
John Kennedy - GA Power Company
Tom Key - EPRI-PEAC
Mladen Kezunovic - Texas A&M University
Mort Khodaie - Public Service CO NM
Margaret Kirk - Peninsula Light Co
Don Koval - Universiy of Alberta
Dan Kowalewski – Exelon - Commonwealth Edison*
David Kreiss - Kreiss Johnson
Thomas M. Kulas – Xcel Energy
Frank Lambert - Georgia Tech/NEETRAC
Larry Larson - Otter Tail Power Co
Ken Lau - PG&E
Jim Laurich - FirstEnergy Corp.
Robert E. Lee - Pennsylvania Power & Light Co.
Jim Lemke - Cinergy
Gene Lindholm - AES/CILCO
Raymond M. Litwin - Northeast Utilities
Vito Longo - Power Technology Consultants LLC
Andrea Mansoldo - Pirelli Cavi e Sistemi S.p.A
Arshad Mansoor - EPRI-PEAC Corporation
Mike Marz - Cooper Power Systems
John McDaniel - Detroit Edison Co.*
Stephen Middlekauff - CP&L
Bill Montgomery - Con Edison
J.C. Montgomery - Detroit Edison Co.
Chris R. Mueller - RTE Zellweger
Jerry Murray - Oregon PUC
Peter Nedwick - Dominion - Virginia Power
Gregory Olson - Public Service Electric & Gas
Anil Pahwa - Kansas State University
Dan Pearson - PGE
Theodore Pejman - USDA-RUS
Christian Perreault - Hydro Quebec

Charles Perry - EPRI - PEAC
Robert Pettigrew - Beckwith Electric Company
C.Y. Pi - Moore Systems
Steven L. Puruckner - ORNL
Steve Quade - Northern States Power Company
Gary Rackliffe - ABB/Automated Distribution
Ignacio Ramirez-Rosado - University of La Rioja
Wanda Reader – Exelon –Commonwealth Edison
John Redmon - John R Redmon, Inc.
Sebastian Rios - Catholic University Chile
Rodney Robinson - Westar Energy*
Fred A. Rushden - Rushden Consulting & Research
David Russo - Seattle City Light
Dan Sabin - Electrotek Concepts
Shafi Sabir - Scarborough PUC
Jim Sagen - Fort Collins Light & Power Dept.
Bob Saint - NRECA
Joe Santuk - Dominion - Virginia Power
David J. Schepers – Ameren*
Ken Sedziol - Cinergy
Peter Shaw - Consultant
Michael Sheehan - Puget Sound Energy
Tom Short - EPRI-PEAC
Hari Singh - Cooper Power Systems
John Spare - KEMA Consulting
John Sperr - Rochester Instrument Systems
Lee Taylor - Duke Power Co.
Rao Thallam - Salt River Project, ISB 240
Ridley Thrash - Southwire Company
Betty Tobin - Seattle City Light
Hahn Tram - SchlumbergerSema
Hector Valtierra – Exelon - Commonwealth Edison
S.S. (Mani) Venkata – Iowa State University
Joseph Viglietta –Exelon PECO Energy Company*
Marek Waclawiak - United Illuminating Co.
Daniel J. Ward - Dominion - Virginia Power
Carl Warn - Rochester Gas & Electric Corp.
Neil Weisenfeld - Con Edison
Greg Welch - ABB Power T&D Company, Inc.
Lee Welch - Georgia Power Company
Val Werner - Wisconsin Electric
Charlie Williams - Florida Power - A Progress Energy Company*
Bill Winnerling - EPRI
Mike Worden - NY PSC