SECTION:	Surplus
INDEX NO.:	S900-801
TITLE:	Surplus Attributable to Employer and Employee Contributions on Plan Wind Up - ss. 78(2) of the PBA, 1990 and ss. 28(5) of Regulation 909
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Note: Due to legislative changes, all references to "the Pension Commission of Ontario" or "PCO staff" should be read as "the Superintendent of Financial Services."

The *Pension Benefits Act* provides that an employer who applies to the Pension Commission of Ontario (the "Commission") for consent to payment of money to an employer that is surplus out of a pension fund must transmit notice of the application, containing the prescribed information, to the parties listed in subsection 78(2) of the Act.

Subsection 28(5) of Regulations 909, R.R.O. 1990, as amended (the "Regulations") provides that:

> A notice required under subsection 78(2) of the Act for a plan that is being wound up shall contain, ...
>
> (c) the surplus attributable to employee and employer contributions; ...

The following practice will be followed by the staff of the Pension Commission ("PCO staff") in assessing compliance with this requirement:

1. Where circumstances warrant, PCO staff may question thereasonableness of methods or information used to attribute surplus between employee and employer contributions.. In all cases, the final decision as to whether clause 28(5)(c) has been satisfied rests with the Commission.

2. The plan actuary should provide PCO staff with:

    a) a detailed description of the method used to determine the surplus attributable to employee and employer contributions;

    b) any information relevant to the attribution method, including information on the actual annual amount of employer contributions and employee contributions remitted since the inception of the plan or prior plan(s), if any, or for such period of time for which this information is available.

c) a statement by the actuary performing the calculation that, in his/her opinion:

i) the data is sufficient and reliable (the data statement could be qualified with an explanation if appropriate), and
ii) the method used is reasonable given the Regulations and the Commission's policy.

3. The onus is on the actuary to use a reasonable method. In general, the Commission will not accept an assertion that it is not possible to estimate the amount of surplus attributable to employee and employer contributions. Also, the Commission will not accept a notice which does not contain an estimate of the amount attributable to each. (It should be noted that it is acceptable to show a range of results based on different methods or assumptions, assuming those methods and assumptions are acceptable to the Commission.)

4. Subject to any professional standards established by the Canadian Institute of Actuaries, it is not the intention of the Commission to specify a method that must be used. However, the Commission has in the past requested the actuary to consider:

a) that the contributions of all members were considered, not just the contributions of members remaining at the time of plan wind up or surplus withdrawal;

b) that the historic fund rates of return were applied to the member contributions;

c) that the attribution method used considers events for the life of the plan and not only for part of the period (assuming the data is available or a reasonable approximation for the data can be made). For example, it is not appropriate to consider events just from when the first ongoing surplus was revealed; and

d) as a minimum, the surplus attribution method should account for and disclose the following information:

i) employee and employer contributions for the life of the plan, or if information for the life of the plan is not available in the administrator's records, since 1966 where longer periods are involved (since this information can usually be obtained from Commission records;
ii) fund rates of return (net of expenses is acceptable);
iii) previous refunds of surplus to employer(s) or employees.

5. It may be appropriate under some surplus attribution methods to take into account specific events in the life of the plan. In these cases, the actuary should consider all significant events which have a material impact on the surplus in the plan such as:

a) annuity purchases (group or individual);
b) annuity purchases for less than the value of member contributions accumulated with interest;
c) rates of return credited on member contributions over the plan history of the plan;
d) partial wind ups (with respect to surplus and/or other asset distributions);
e) benefit enhancements, such as ad hoc adjustments to pension in pay;
f) changes in assets, liabilities and surplus resulting from mergers;
g) dividend income (or asset transfers) from predecessor group annuities;

6. In addition to setting out the amounts of surplus attributable to employee and employer contributions, the notice to plan members and others should include the following information:

a) there is no generally accepted interpretation of "surplus attributable to employee and employer contributions";

b) other interpretations of "surplus attributable to employee and employer contributions" are possible, which may lead to different results;

c) there is no one method generally accepted within the actuarial profession of calculating the amount of surplus attributable to employee and employer contributions;

d) the amounts of surplus attributable to employer and employee contributions are estimates determined by the actuary retained by (whomever retained the actuary -- such as the employer, Joint Board, union, etc.); and

e) a detailed description of the method of attribution is available from the plan administrator.

Please note that wherever a reference to "fund rate of return" is used in this policy, an approximation or reasonable proxy may be used in lieu of the fund rate of return if the actual fund rate of return is not available or impractical to calculate. It should also be noted that, generally speaking, employee and employer contribution information may be available at the Commission (subject to section 30 of the Act).

Appendix

The Appendix provides a few examples of methods of allocating surplus attributable to employee and employer contributions that have not caused the Commission concerns. The methods described in A & B have been used by actuaries in the past to satisfy the requirements of the Regulations and Commission policy.

It should be noted that the Commission has also not questioned cases where a reasonable approximation of the fund rate of return was used if the fund rate of return was not available. One example of this approach would be to use the returns detailed in the table entitled "Pension Plan Asset Median Returns" from the annual CIA "*Report on Canadian Economic Statistics*" that is appropriate for the particular asset mix of the pension fund in question.

All of the examples in this Appendix are based on cases which have come before the Commission. The Commission intends to update the Appendix periodically as the Commission is developed. In the examples, dollar amounts, dates and names have been changed to preserve confidentiality.

A. Methods Which Meet the Requirements of the Regulations and the Commission Policy in Specific Situations

The following methods have not been questioned and the Commission has concluded that they meet the requirements of the Regulations and the policy in specific situations considered by the Commission. However, for future applications, it is the responsibility of the actuary to ensure that the method is reasonable in the circumstances of a particular application.

A-1 Simple Accumulation of Employee and Employer Contributions Plus Interest

In example A-1 below, a simple accumulation of employee and employer contributions with investment earnings (fund rate of return or a reasonable approximation) from plan inception to the date of surplus determination was used. Any previous surplus refunds to employees/the employer plus interest must be deducted from their respective accumulations. The accumulated employee contributions as a percentage of total accumulated contributions can be considered to be the proportion of surplus attributable to employee contributions.

Year Ending December 31	Employee Contributions	Employer Contributions	Unit Value Pooled Fund	Employee Accumulated Contributions	Employer Accumulated Contributions
1972	4,435	2,661	5.06	4,435	2,661
1973	5,600	3,350	4.90	9,796	5,868
1974	5,113	3,068	4.78	14,616	8,760
1975	7,347	6,245	5.11	23,242	15,836
1976	8,639	7,281	5.56	34,310	24,833
1977	9,254	7,866	6.11	47,354	35,499
1978	11,397	3,299	7.31	69,245	46,146
1979	15,038	11,663	8.12	92,753	63,544
1980	16,186	9,102	9.75	129,229	86,347
1981	16,342	9,249	9.68	144,486	94,878
1982	20,591	11,654	12.68	213,080	137,766
1983	21,093	11,939	14.04	258,233	165,168
1984	22,362	12,657	16.65	330,589	209,649
1985	23,077	13,061	20.65	435,988	274,728
1986	23,273	1,027	23.18	513,952	309,383
1987	25,804	0	23.47	546,366	313,264
1988	28,279	0	26.39	644,389	352,244
1989	31,325	32,891	27.09	**693,332**	**394,977**
	295,155	147,014		**63.71%**	**36.29%**
				% Attributable To Employees	% Attributable To Employers

NOTE: These numbers have come from a case which has been considered by the Commission. The numbers in the example, which is intended to illustrate the surplus attribution methodology, have been altered to preserve confidentiality.

A-2 Accumulation of Employee and Employer Contributions Less Disbursements Out of the Fund

Example A-2, excerpted from a filing which follows, and is a variation on method A-1. It also takes into account payments made out of the fund, making reasonable assumptions with respect to the allocation of the employee/employer proportion of payments made out of the fund:

The Retirement Plan for Non-Union Employees of XYZ Company Limited

<u>Description of the Surplus Attribution Method</u>

The contributions, investment income and benefit payments have been allocated to either the employee or employer accounts based on the historical cashflows between January 1, 1970 and December 31, 1989. It is these three items which develop the amount of assets at December 31, 1989, the date of the partial wind-up. The detailed attribution calculation can be found In Exhibit 1.

The result of this attribution method indicates that 60.14% of the assets at December 31, 1989 are attributable to employer contributions and 39.86% are attributable to employee contributions. The Actuarial Opinion indicates the split of the surplus on this basis. Specific assumptions used in the attribution are detailed below.

In 1978, there was a merger of two plans, both of which could be considered predecessor plans to this plan. At that time, the assets were commingled and all cashflow was merged from that time forward. We combined all cashflows for the two plans back to plan inception in 1970.

For some of the years, custodian statements were not available and the subsequent actuarial valuation report was used. At the end of each year, the market value of assets was balanced to the following year's initial value. The result will not be affected materially by any inconsistencies that arise as a result of this.

Contributions

Contributions, split by employer and employee, were available for most years back to 1970. In instances where the exact split was not available, the actual total contributions were split using the relationship set out for required contributions in the previous actuarial valuation.

Investment Income

The investment income, net of plan expenses, was split for each year based on the employer/employee attribution as at the beginning of the year. Contributions were assumed to be paid at the beginning of each year.

Benefit Payments

The records do not exist to trace the portion of the benefit payouts attributable to employer and employee contributions. The following assumptions were made:

a) Termination - Vested and Non-Vested

The following assumptions were made, based on the very high level of turnover that the employer has historically had in the affected group, as to the portion of the payout attributable to employer contributions of any termination payments:

Payments prior to 1988	0%
1988	5%
1989	10%
1990	15%

The amounts shown in this column were categorized in the custodian's statements and actuarial reports as "lump sum cashouts", "contributions returned" or "separation payments".

b) Transfers

For any funds transferred out of this plan, 25% of the payment was assumed to be attributable to employer contributions and 75% of the payment was assumed to be attributable to employee contributions.

c) Pension Payments

For any funds paid out of the plan as pension payments, we assumed that 50% of the payment was attributable to employer contributions. Tests were performed using the pension calculations for a cross-section of recent retirees. These tests indicated that the portion of the cost of the benefit attributable to employer contributions ranged from

40% to 60%, with the percentage being highest for employees who retire at a young age.

EE = Employee **ER = Employer**

Year	**RECEIPTS**			**DISBURSEMENTS**										**SHARE OF FUND**		
	Contribution Employer	Employee	Investment Income	Expenses	Terminations Total	ER	EE	Transfers Total	ER	EE	Pension Payments Total	ER	EE	Total	ER	EE
1970	30,051	19,675	57	0	0	0	0	0	0	0	0	0	0	49,783	30,085	19,698
1971	57,682	41,669	3,601	135	2,495	0	2,495	0	0	0	0	0	0	150,105	89,807	60,298
1972	73,550	49,663	10,359	665	6,309	0	6,309	0	0	0	0	0	0	276,703	169,151	107,552
1973	81,905	62,231	15,668	1,028	9,573	0	9,573	0	0	0	220	110	110	425,685	259,679	166,006
1974	253,999	84,698	29,423	1,498	19,227	0	19,227	0	0	0	750	375	375	772,330	532,068	240,261
1975	138,980	102,587	60,922	2,486	25,074	0	25,074	0	0	0	771	385	385	1,046,487	709,338	337,149
1976	164,594	126,150	83,219	3,150	51,584	0	51,584	0	0	0	2,494	1,247	1,247	1,363,223	925,014	438,209
1977	259,916	156,929	111,207	3,984	61,496	0	61,496	0	0	0	3,669	1,835	1,835	1,822,126	1,254,470	567,656
1978	173,190	144,325	176,417	6,326	66,452	0	66,452	0	0	0	9,815	4,908	4,908	2,233,464	1,536,244	697,220
1979	311,870	258,867	244,258	6,411	74,906	0	74,906	0	0	0	25,641	12,821	12,821	2,941,501	1,992,047	949,454
1980	261,861	239,186	350,495	7,337	102,702	0	102,702	0	0	0	51,720	25,860	25,860	3,631,283	2,452,720	1,178,563
1981	315,867	287,881	428,514	8,084	140,372	0	140,372	0	0	0	35,667	17,833	17,833	4,479,422	3,025,603	1,453,819
1982	108,105	346,579	947,370	0	95,618	0	95,618	18,000	4,500	13,500	71,869	35,934	35,934	5,695,989	3,694,959	2,001,030
1983	184,647	444,609	855,212	0	173,154	0	173,154	18,192	4,548	13,644	108,070	54,035	54,035	6,881,040	4,345,569	2,535,471
1984	107,942	473,801	554,870	110,737	184,038	0	184,038	0	0	0	119,362	59,681	59,681	7,603,517	4,658,873	2,944,644
1985	28,815	463,442	852,017	78,226	201,375	0	201,375	- 779	- 195	-584	139,433	69,717	69,717	8,529,535	5,066,213	3,463,322
1986	329,942	469,303	1,313,574	79,191	212,594	0	212,594	0	0	0	154,217	77,109	77,109	10,196,352	6,033,065	4,163,287
1987	47,288	510,505	1,947,199	125,670	410,010	0	410,010	55,703	13,926	41,777	201,761	100,880	100,880	11,918,200	7,001,086	4,917,113
1988	3,766	469,001	617,621	198,165	299,039	14,952	284,087	710,174	177,544	532,631	226,754	113,377	113,377	11,574,456	6,936,107	4,638,349
1989	0	447,750	1,655,853	304,633	575,989	57,599	518,390	32,635	8,159	24,476	260,693	130,346	130,346	**12,504,110**	**7,519,577**	**4,984,532**

Note: As of December 31, 1989, 60.14% of the fund was derived from employer contributions.
The calculations and figures are intended to illustrate the surplus attribution methodology.
The figures have been altered to preserve confidentiality.

B. Methods Which May Not Meet the Criteria of the Commission's Surplus Attribution Policy

The following are methods that have been submitted to the Commission about which the Commission has expressed concerns or would not meet the criteria of this Policy.

Also, in this case annuities appear to have been purchased for the accrued benefit without comparison to the accumulated employee contributions. This aspect of the annuity purchase should have been disclosed.

B-1 Accumulated Employee Contributions Versus Contributory Liabilities of Plan

Example B-1 (excerpts from letters which follow) uses a method which compares aggregate accrued liabilities with accumulated employee contributions, for members affected by the wind-up only, without regard to the fund rates of return. Any excess of accumulated employee contributions over and above contributory liabilities is claimed to be the surplus attributable to employee contributions. This method essentially assumes that all employee contributions are first used to provide all plan benefits and employer contributions are then used to top up benefits.

It should be noted that the surplus attribution method and result is only one element of the entire application. In the past, after taking all relevant issues into consideration, the Commission has approved applications for the distribution of surplus even though it has expressed concerns about the method of attributing the surplus between employer and employee contributions.

As a matter of policy, the Commission is uncomfortable with any methodology that assumes contributions are made on a first-in first-out basis (FIFO) or a last-in first-out basis (LIFO).

Excerpt of a Letter from the Administrator of XYZ Company Limited to PCO Staff

In response to items no. 3 and 4 in the letter of January 10, 1994, the following is the breakdown of assets and liabilities by pre/post plan change:

Assets	GR-123	GR-987	Total
Termination Value of contract:			
Value of Employee Contributions ($)	80,000	0	80,000
Value of Employer Contributions ($)	30,000	600,000	630,000
Total Assets ($)	110,000	600,000	710,000
Liability			
Single Premium Cost ($) (before improvements)	65,000	320,000	385,000
Improvements - Amendment No. 4			
Class B ($)	8,000	15,000	23,000
Class A ($)	0	76,000	76,000
Actuarial Fee ($)	3,000	3,000	6,000
Total Liabilities ($)	76,000	414,000	490,000
Surplus	$34,000	$186,000	$220,000

Please also refer to the letter concerning the XYZ Company Limited which follows acknowledging the surplus attributable to the employees and employer.

Excerpt of a Letter from an Actuary to PCO Staff

Mr. Pension Officer
Pension Commission of Ontario
5160 Yonge Street, P.O. Box 85
North York ON M2N 6L9

Dear Sir:

Re: Pension Plan for the Employees of XYZ Company Limited
- Registration #0000000

Further to your letter of October 20, 1994, I am pleased to provide a response for certain of the questions posed. The additional items will be addressed by A.N. Administrator of XYZ Company Limited. I have retained the same numbering system as was used in your letter.

You asked that I ascertain that the requirements of the *PCO Bulletin* (the "*Bulletin*") August 1993 (Vol 4, Issue 1) were fulfilled.

Under subsection 78(2) of the *Pension Benefits Act* R.S.O. 1990, c.P.8, as amended, an employer applying for a return of surplus from a wound-up plan must provide notice of the application to the persons specified in that subsection. The notice must contain information prescribed by the Regulations. Subsection 28(5) of Regulation 909, R.S.O. 1990, as amended, requires, among other things, that the notice contain "the surplus attributable to employer and employee contributions".

In my opinion, it is not possible to determine the amount of surplus attributable to employee and employer contributions under the XYZ Company Limited Pension Plan primarily because the plan was funded through the purchase of insured guaranteed annuities. Under this type of funding arrangement, the determination of actual fund rates of return and plan expenses is virtually impossible. Also, there is no standard method of estimating the amount of surplus attributable to employer and employee contributions. Finally, no account is taken of the value of insured coverage such as ancillary benefits provided under the plan that protect against the economic consequences of death, disability or early retirement.

At page 27 of its *Bulletin* dated August, 1993, Vol. 4, Issue 1, the Pension Commission of Ontario (the "Commission") states "as a matter of policy, the Commission will not accept an assertion that it is not possible to determine the amount of surplus attributable to employee and employer contributions" and will not accept a notice which does not contain an estimate of the amount attributable to each. As a consequence, I have estimated that the surplus attributable to employer contributions as at the wind-up date (July 23, 1986) is $216,000 or 98.2% of the wind-up surplus. The portion of wind-up surplus attributable to employee contributions is $4,000 or 1.8%. This estimate was determined using the method described below. In my opinion, the method employed is consistent with sound actuarial principles and practices appropriate for the intended purpose of complying with the *Bulletin*, having regard to the policy requirements of the Commission under the *Bulletin*, the fact that there is no standard or generally accepted actuarial method of calculating the amount of surplus attributable to employee and employer contributions, and disregarding terms of the plan relating to surplus and the determination of plan benefits.

Please note that the calculations were prepared on the basis of item 3 of your letter of January 10, 1994 to A.N. Administrator in which you requested a calculation on the basis of treating the prior contributory plan and the revised noncontributory plan as separate entities. It is my opinion that the Act does not anticipate separating benefits and values under the plan into those attributable to specific periods other than pre and post the various legislation dates. I have also prepared calculations on the basis that the plan is treated as a single entity; on this basis, the surplus attributable to member contributions is nil.

The following is a detailed description of the method employed.

Background

A termination report dated October 15, 1989 (the date of the wind-up) was prepared by Mr. A. Nother Fellow and Mr. Actuary Tobee and was filed with the Pension Commission of Ontario. This report was used by me to identify the employees affected by the partial wind-up and as the basis of identifying the contributions and liability attributable to such employees as at the wind-up date.

Calculation Method

The details of the calculation method used to determine the value of surplus attributable to employee contributions are as follows.

a) Employee accumulated contributions were redetermined for employees affected by the plan termination by accumulating historical contributions for each such employee using an interest rate of 6%. Historical net fund earnings rates are not available for the plan. The 6% rate has been used in the redetermination of member accumulated contributions as a reasonable approximation to the net fund earnings rate.

b) Revised plan liabilities as at the August 31, 1987 plan termination date were determined with respect to the employees affected by the plan termination using the valuation basis established for the related report and taking into consideration the redetermined employee accumulated contributions.

c) Revised accumulations were not considered for those former members who had terminated employment in the normal course of events prior to the plan termination date.

d) The additional liability resulting from the above calculations amounted to $4,000 and is the amount which I estimate is the value of surplus attributable to employee contributions.

e) The estimated value of surplus attributable to employer contributions is necessarily the balance of the total surplus of $220,000 shown in the plan termination report.

In addition, you asked that I provide comments regarding the guaranteed annuity purchases affected by members who elected to receive a deferred annuity on the plan's termination. The annuity purchases were for the amount of accrued benefit indicated in earlier correspondence with your office, and with a retirement age of 65. The terms of the pension plan with respect to early and deferred retirement are identical to the terms of the Pension Plan. These are indicated in the XYZ Pension Plan, Endorsement No. 2 of the guaranteed Annuity contract GR-123. As a result, all of the benefits accrued to the members prior to the termination date have been provided by either guaranteed annuity purchases or transfer of commuted values.

Yours truly,
A.N. Actuary, F.C.I.A.
ABC Pension and Benefits Consulting Firm

B-2 Various Problems

Example B-2 is one example that uses techniques for which the Commission had concerns with more than one issue. In this example, the following three principles are illustrated.

a) The actuary should not only consider events in the life of the plan since the last <u>going concern</u> unfunded liability was disclosed.

b) Actual contributions should be used whenever they are available. Recommended contributions could possibly be used only in circumstances when there are no sources of information which can provide actual contributions.

c) Interest should be included as part of the analysis.

The following comments illustrate how Example B-1 failed to comply with the policy principles cited above:

- The second paragraph asserts that, "It should be noted that at these times [December 31, 1988 and December 31, 1991] the Plan had a deficit, that is, the value of the assets of the Plan were less than the value of the liabilities of the Plan."

However, on PCO staff examination of the actuarial reports, the December 31, 1991 valuation disclosed that there was a solvency surplus of over $1,161,000 (compared to an ultimate surplus at the wind up date of $1,500,000). The December 31, 1988 valuation did not contain a solvency valuation. However, there was a very small going concern deficit which was masked by conservative funding assumptions. Given this information, concerns were raised as to the appropriateness of the assertion that because there was an unfunded liability at a particular date, plan history before that date could be ignored.

If it can be demonstrated to the Commission's satisfaction that market value of assets are less than wind up liabilities at a particular date, then it may be acceptable to account only for plan history from that point onwards.

- The actuary also used recommended contributions from the valuation report as opposed to actual contributions in the analysis. Actual contributions were available in Commission files for all years up to 1991, and these differed materially from the recommended contributions.
- The actuary did not use interest in the accumulations. No mention was made of fund rate of return or interest credited to employee contributions over the period of time in question.

Excerpt of a Letter by an Actuary to the Commission

"There is no standard method of calculating the amount of surplus attributable to member and Company contributions. A precise attribution of the Surplus to the contributions of the members of the Plan and the Company is possible only with large amounts of detailed information relating to member and Company contributions and the timing of the investment returns of the Plan fund. This information is not available to the Company. The amounts provided in this section are estimates determined by the Plan actuary.

A reasonable approximation of the attribution can be made based upon the recommended Company contribution ratio contained in the actuarial valuations for the Plan at December 31, 1988 and December 31, 1991. It should be noted that at these times the Plan had a deficit, that is, the value of the assets of the Plan were less than the value of the liabilities of the Plan.

The 1988 valuation report recommended that Company contributions be made at the rate of 55% of member contributions. The Company was also required to contribute annually $22,569 in respect of the liability for the benefits of Designated Members (who were not required to make their own contributions to the Plan) and $3,302 to amortize the deficit in the Plan. Using these figures and the expected level of member contributions, Company contributions represented 42.4% of total contributions to the Plan in the years 1989, 1990 and 1991.

The 1991 valuation report recommended that Company contributions be made at the rate of 92% of member contributions. The Company was also required to contribute annually $36,500 to amortize the deficit in the Plan. Using these figures and the expected level of member contributions, Company contributions represented 62.1% of total contributions to the Plan in 1992.

Taking a weighted average for the period 1989 to 1992 using the percentages of total contributions noted above, Company contributions to the Plan averaged 49.4% of total contributions. On this basis, it might be said that 49.4% of the Surplus, or $741,000 plus investment earnings since December 31, 1992, is attributable to Company contributions and 50.6% of the Surplus, or $759,000 plus investment earnings since December 31, 1992 is attributable to member contributions. A detailed description of the method of allocation is available from the Plan actuary.

It is however, important to remember that the law does not base ownership of pension plan surplus on the arithmetic attribution of the surplus to the contributions of a plan sponsor and the plan members. Rather, ownership of pension plan surplus is determined on the basis of the plan documentation.

Surplus Withdrawal

The Company will request payment to it of 35% of the Surplus remaining after an amount equal to 65% of the Surplus (approximately $975,000) has been distributed by the trustees to former members. The distribution of the money by the trustees is conditional upon receiving the approval of the Pension Commission of Ontario to the surplus split. The amount to be paid to the Company will be approximately $525,000 plus earnings less expenses between September 30, 1994 and the date of payment."