Risk-based Supervision of the Funding of Ongoing Defined Benefit Pension Plans

May 2000

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ABSTRACT

One of the main purposes of the Financial Services Commission of Ontario (FSCO) is to provide regulatory services that protect the public interest and enhance public confidence in the regulated sectors, of which the pension sector is one. The pension sector is governed by the *Pension Benefits Act* and the regulations made thereunder. The Superintendent of Financial Services has the authority and duty to administer and enforce the Act.

As one of its strategic priorities for 2001-2002, FSCO is committed to promoting and vigorously enforcing compliance. To this end, FSCO is moving towards risk-based supervision of pension plans so as to enable it to focus on areas where there is non-compliance with the Act or regulations that may put members' pension benefits at risk. The ultimate goal is stronger regulatory compliance with less intervention by FSCO.

This paper gives an overview of a risk-based approach proposed in a FSCO's Consultation Paper issued in April 1999. It also presents an evaluation of the criteria that were proposed in the Consultation Paper for identifying higher risk situations, based on a test conducted by FSCO staff over a 10-month period beginning in June 1999.

The paper concludes with a set of recommended risk assessment criteria for adoption by FSCO.

1. INTRODUCTION

FSCO staff have for a number of years followed a fairly extensive review process in regulating pension plans, with few considerations of the risk profile of different plans. This has resulted in an inordinate amount of time being spent on plans which are largely in compliance. To improve the regulatory process and make more effective use of resources, FSCO seeks to develop a risk-based approach to its pension plan monitoring and review practices. The goal is to reduce the risk that members of a pension plan will not receive the benefits promised under the terms of the plan. As an initial step, FSCO has decided to concentrate its efforts on the supervision of the funding of <u>defined benefit</u> pension plans.

From FSCO's point of view, a risk-based approach should be designed to achieve three objectives:

- To identify cases requiring closer supervision on a timely basis;
- To focus limited resources on review of those cases identified as requiring closer supervision; and
- To ensure timely corrective action.

With these objectives in mind, in April 1999 FSCO staff prepared a Consultation Paper titled "A Risk Based Approach For Review Of Funding Valuation Reports - Ongoing Pension Plans" which proposed a system using a set of criteria to identify cases requiring closer supervision (referred to herein as the "risk assessment criteria"). The paper went on to describe a project protocol for testing the risk assessment criteria, with a view to completing an analysis and to recommending a set of risk assessment criteria for use by FSCO.

It has been recognized that funding valuation reports ("FVRs") provide a significant amount of information about the financial condition of a pension plan. Accordingly, the criteria as proposed in the Consultation Paper are based primarily on information extracted from FVRs. However, the FVRs are free form documents, some of which can be very lengthy, and the information is not easily extracted without a significant level of technical knowledge. To deal with this obstacle, FSCO in conjunction with the Canada Customs and Revenue Agency and the Office of the Superintendent of Financial Institutions have developed an Actuarial Information Summary form ("AIS") that presents key data of FVRs in a standardized format. The data on the AIS can then be readily entered into an automated data base for risk assessment and other purposes. All FVRs filed on or after July 1, 2000 must be accompanied by the new AIS in order to meet the filing requirements under the regulations.

An Advisory Panel comprising of selected members from FSCO's various pension advisory committees[1] was formed last year to assist FSCO staff in carrying out the project as described in the Consultation Paper. In November 1999, staff performed a preliminary evaluation of the risk assessment criteria and communicated the results to the Advisory Panel.

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[1] There are four FSCO's pension advisory committees: namely, the Legal Advisory Committee, the Actuarial Advisory Committee, the Investment Advisory Committee and the Accounting and Assurance Advisory Committee. The committees' role is to provide advice to the Superintendent in carrying out the Superintendent's responsibilities under the Pension Benefits Act.

FSCO staff have now completed a full evaluation of the risk assessment criteria. The purposes of this paper are to:

- provide an overview of FSCO's risk-based approach,
- present the test results and the analysis of risk assessment criteria, and
- recommend a set of risk assessment criteria for adoption by FSCO.

2. OVERVIEW OF FSCO's RISK-BASED APPROACH

As indicated in the April 1999 Consultation Paper, FSCO intends to adopt a risk-based approach that includes the following three major categories of activities:

- *Monitor Compliance*

  FSCO staff check that all plans have filed the required reports and certificates. Specific elements of information included in a plan's AIS or FVR are compared to criteria developed by FSCO, discussed in more detail later in this paper. The criteria identify plans that seem to be at high risk of not meeting their obligations to members as a result of non-compliance with the Act and regulations. These plans are selected for in-depth compliance review.

- *Ensure Compliance*

  When the in-depth compliance review identifies compliance deficiencies, FSCO staff will communicate with the plan administrator and/or actuary and agree on the corrective actions that will be taken.

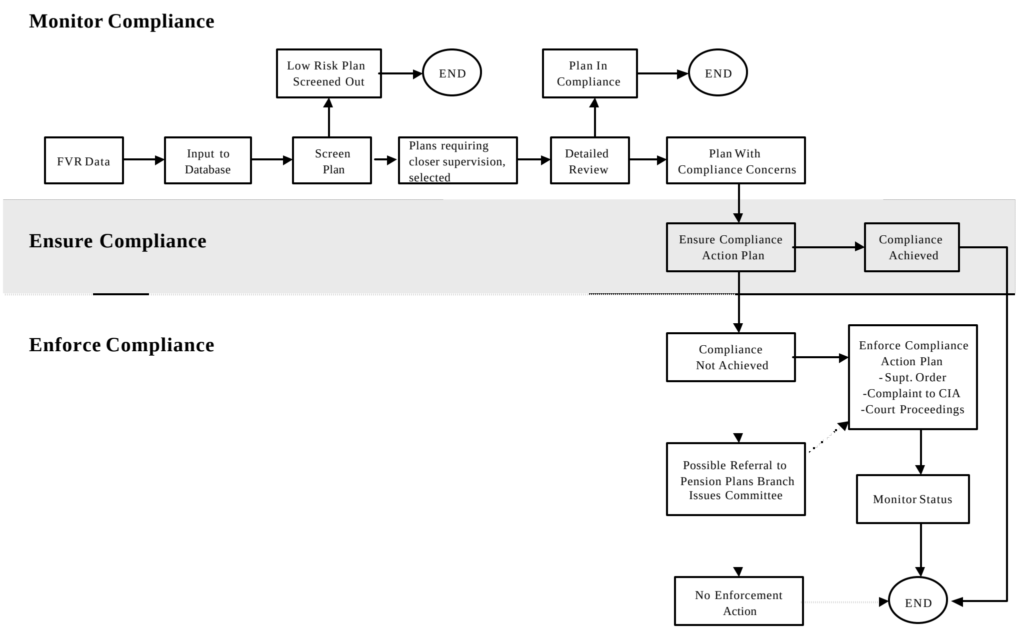
- *Enforce Compliance*

  In rare circumstances, when material compliance deficiencies have been identified and the plan administrator or actuary cannot, or will not, take appropriate corrective action, the Superintendent will intervene through issuance of an order, court prosecution or other regulatory action.

Figure 1 on the following page depicts the work flow under the proposed risk-based approach.

Figure 1

Risk Based Approach Flow Chart



3. PROPOSED RISK ASSESSMENT CRITERIA

The April 1999 Consultation Paper proposed certain criteria for the purpose of identifying potentially high risk plans for in-depth compliance review. They are to be applied in the following manner at the time each FVR is filed:

- ❑ **Level One screening** screens out plans that would not appear to present an immediate high risk to members' benefits due to any undervaluation of required contributions or liabilities.

- ❑ **Level Two screening** selects from plans not screened out at Level One those plans that appear to present an immediate high risk to members' benefits due to any possible compliance deficiencies.

Listed below are the proposed criteria.

Level One screening

FVRs meeting one of the following criteria will **not** normally be selected for in-depth review:

1.1 Plans that are designated plans

(Often, members of designated plans are in a position to control or influence the company funding to the plan. Extensive regulation by FSCO does not appear to be warranted.)

1.2 Public sector plans where all liabilities are guaranteed by the Government

1.3 Plans that meet all of the following conditions:
- the plan provides a final average earnings benefit
- the plan has solvency assets < $50 million
- the ongoing funded ratio is .8 or higher
- there are no solvency concerns[2]

[2] Under section 14 of the Regulation, a report indicates solvency concerns where:
(A) the ratio of the solvency assets to solvency liabilities is less than 0.8; or
(B) the solvency liabilities exceed the solvency assets by more than $5,000,000 and the ratio of solvency assets to solvency liabilities is less than 0.9

- the going concern actuarial assumptions, cost method and asset valuation method are within guidelines[3], and
- the solvency assumptions and methods are within guidelines

1.4 Plans that meet all of the following conditions:
- the plan provides other than a final average earnings benefit
- the plan has solvency assets < $10 million
- the ongoing funded ratio is .9 or higher
- there are no solvency concerns
- the going concern actuarial assumptions, cost method and asset valuation method are within guidelines, and
- the solvency assumptions and methods are within guidelines

1.5 A full wind up, conversion, or merger is under review as of a date subsequent to the date of the valuation

(The FVR will be reviewed by staff in their review of the particular event.)

Level Two screening

Of the FVRs not eliminated by the Level One screening, FVRs will be selected for detailed review if they meet any **one** of the following criteria:

2.1 Going concern actuarial assumptions, actuarial cost method or asset valuation method are outside guidelines and a FVR filed for the plan has not been reviewed within the last 7 years

2.2 The solvency assumptions and/or methods are outside guidelines

2.3 Any one of the following conditions exists with respect to the going concern valuation:
- liabilities decreased by 20% or more due to changes in actuarial assumptions
- liabilities decreased by 20% or more due to a change in the cost method
- going concern assets increased by 10% or more due to a change in the asset valuation method

2.4 Going concern assets exceed 110% of solvency assets

2.5 Demographic losses from the last FVR filed exceed 10% of going concern liabilities

2.6 Investment losses from the last valuation filed exceed 15% of going concern assets

2.7 Untraced gains/losses from the last FVR filed exceed 5% of going concern liabilities

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3 Guidelines for actuarial assumptions and methods are developed internally by FSCO for screening purposes. They are revised from time to time as warranted by changes in economic environment and/or actuarial professional standards.

2.8 The going concern funding ratio is less than 1 and has reduced by 0.1 or more from that reported in the last FVR filed

2.9 The market value of assets has reduced by 20% or more since the last FVR filed

2.10 There have been changes in actuarial assumptions, cost method or asset valuation method in each of the last 3 reports filed

2.11 Going concern assets exceed 105% of solvency assets in each of the last 3 FVRs filed

2.12 If all of the following conditions are present:
- the plan provides other than a final average earnings benefit
- the plan provides special ancillaries (unreduced early retirement, bridge benefits, plant closure or permanent layoff benefits)
- FVRs filed in respect of the plan have not been reviewed in the last 7 years

2.13 If a solvency concern has been identified and FVRs filed in respect of the plan have not been reviewed in last 3 years

2.14 Shortfall in employer contributions from the last FVR exceeds 6 months of the required employer contributions as estimated in the last FVR filed

2.15 If all of the following conditions are present:
- the plan provides a final average earnings benefit
- the ongoing funded ratio is less than 0.8
- no solvency valuation was done

2.16 If all of the following conditions are present:
- the plan provides other than a final average earnings benefits
- the ongoing funded ratio is less than 0.9
- no solvency valuation was done

2.17 Number of members used in the FVR differs from that reported in the Annual Information Return at the plan year end date nearest to the valuation date by 10% or more and the difference in number is 10 or more

Caveat

While it is intended that the specific criteria will be applied in an automatic screening process, FSCO staff in certain circumstances will exercise judgement in assessing whether a plan should be subjected to a detailed review. For example, many of the above criteria contain specific percentages. If a plan were to be minutely over or under a specific percentage, it does not automatically mean that the plan should be exempt from or require a detailed review. The criteria constitute the major, but not only, factors to be considered in making a review decision. Staff normally would look at the whole picture presented by the screening analysis and use judgement in making this determination.

A description of the methodology applied to test the risk assessment criteria is set out in the following section.

4. TESTING METHODOLOGY

FSCO's testing of the risk assessment criteria has been based on FVRs filed with FSCO during the period from July 1, 1998 to September 30, 1999. Data have been extracted from each FVR and compared to the proposed criteria. If a plan is not selected for in-depth review, staff assess if such a review should be required. On the other hand, if a plan is selected for in-depth review, staff perform a compliance review covering the following aspects:

- benefits valued relative to the plan documents filed
- actuarial assumptions and methods used for the going concern valuation and solvency valuation
- valuation results including assets, liabilities, normal cost and special payments, if applicable
- plan membership movements
- fund cash flows including contributions, benefit payments, administration expenses, transfers etc.
- recent plan compliance history
- asset mix policy and fund performance

A plan subject to detailed review is classified into one of the following three compliance classes, depending on the characteristics of the review findings:

Class	Review Outcome	Characteristics
A	In Compliance	Plan meets all the substantive requirements of the Act and regulations with respect to plan provisions, plan administration including investment management, funding and actuarial standards.
B	Non-compliance with No Adverse Financial Consequences	Plan does not meet all the substantive requirements of the Act and regulations with respect to plan provisions, plan administration including investment management, funding or actuarial standards but the non-compliance would not result in a shortfall in contributions or undue investment loss.
C	Non-compliance with Adverse Financial Consequences	Plan does not meet all the substantive requirements of the Act and regulation with respect to plan provisions, plan administration including investment management, funding or actuarial standards and the non-compliance would result in a shortfall in contributions or undue investment loss.

To assess the Level Two criteria, we introduce an *efficiency index* that indicates how likely the presence of a condition would lead to the identification of material compliance deficiencies. The efficiency index for a Level Two criterion is defined as follows:

$$(1 \times N_B + 5 \times N_C) \text{ divided by } N,$$

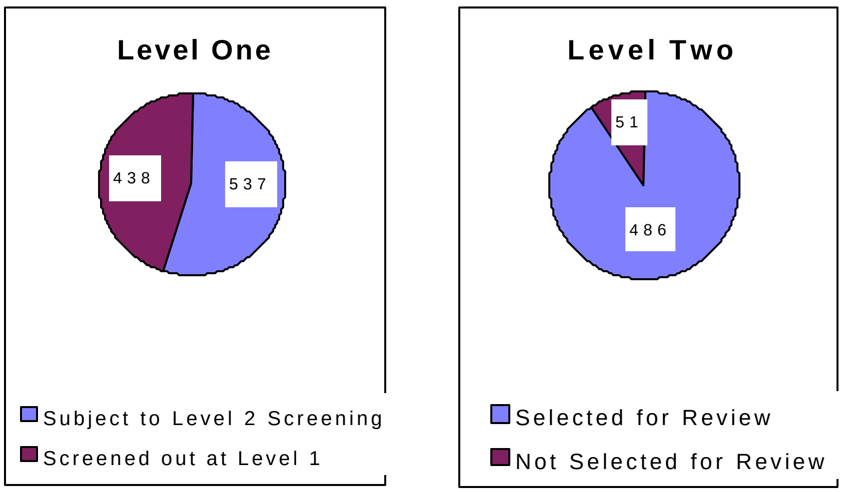
where N_B is the number of Class B cases which exhibit the conditions in the criterion, N_C is the number of Class C cases which exhibit the conditions in the criterion and N is the number of all cases subject to Level Two screening which exhibit the conditions in the criterion.

The above formula recognizes the higher risk associated with Class C cases by assigning a higher weight of 5. It assigns a weight of 1 to Class B cases, and a weight of zero to Class A cases. A criterion is considered to be more efficient than another if it is associated with a higher efficiency index. The Level Two criteria are ranked based on efficiency index for comparison purposes. This is set out in Section 6.

5. HIGHLIGHT OF TEST RESULTS

During the period from July 1, 1998 to September 30, 1999, approximately 1,200 FVRs were received by FSCO. Of these, 975 FVRs which pertained to 955 plans were screened through our system using the criteria described in Section 3. As shown in Figure 2 below, 438 FVRs (or 45%) were screened out at Level One. Of the 537 FVRs subject to Level Two screening, 486 (or about 90%) were identified as requiring a detailed review. This suggests that the proposed Level Two screening is not particularly effective in filtering down the number of cases selected for review, and that there is a need to improve its overall effectiveness. A further analysis is presented in Section 6.

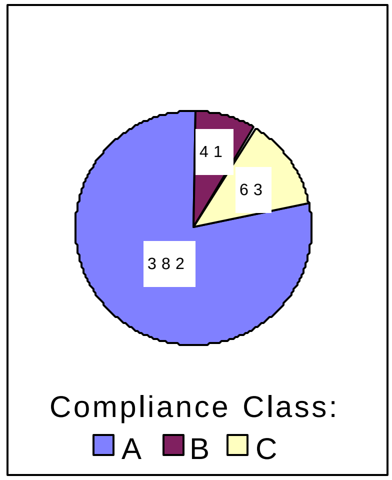
Figure 2



Of the 438 FVRs screened out at Level One, 188 were for designated plans. No apparent compliance deficiencies were found in the remaining 250 FVRs. Likewise, no apparent compliance deficiencies were found in the 51 FVRs which were not selected for review at Level Two.

Figure 3 shows the review outcome pertaining to the 486 plans selected for detailed review. As can be seen, 104 plans were found to contain material compliance deficiencies, with 41 plans identified as Class B and 63 plans as Class C.

Figure 3



The typical compliance deficiencies by class together with the number of occurrences are summarized in the following table.

Class	**Compliance Deficiencies**	**# of Times Occurred**
B	Use of actuarial assumptions that appear to be aggressive and require justification	17
	Discrepancies between the plan provisions summary in the FVR and the plan documents filed	15
	Inappropriate or inadequate disclosure of the actuarial assumptions or methods used for the solvency valuation	8
	FVR filed at a date well after the time frame prescribed in the regulations (more than 15 months from the valuation date)	6

Class	Compliance Deficiencies	# of Times Occurred
C	Use of overly aggressive interest assumption for the going concern valuation which did not appear to be supported by the plan's investment policy, past fund performance nor long term investment return expectation[4]	22
	No provision in the going concern valuation and/or solvency valuation for benefit increases that would come into effect before the next valuation	17
	Failure to remit the required contributions to the plan with some reports indicating a large amount of receivables	16
	Report indicated solvency concerns but did not indicate the requirement for annual actuarial reviews	6
	Amount of contribution holiday taken exceeding the surplus revealed at the last valuation	5

4 For 7 of the cases, the plan actuary acknowledged that the assumed interest rate was inappropriate and agreed to make a revision. For the other cases, staff were either satisfied with the supporting explanation provided by the actuary or are waiting for a response.

6. EVALUATION OF RISK ASSESSMENT CRITERIA

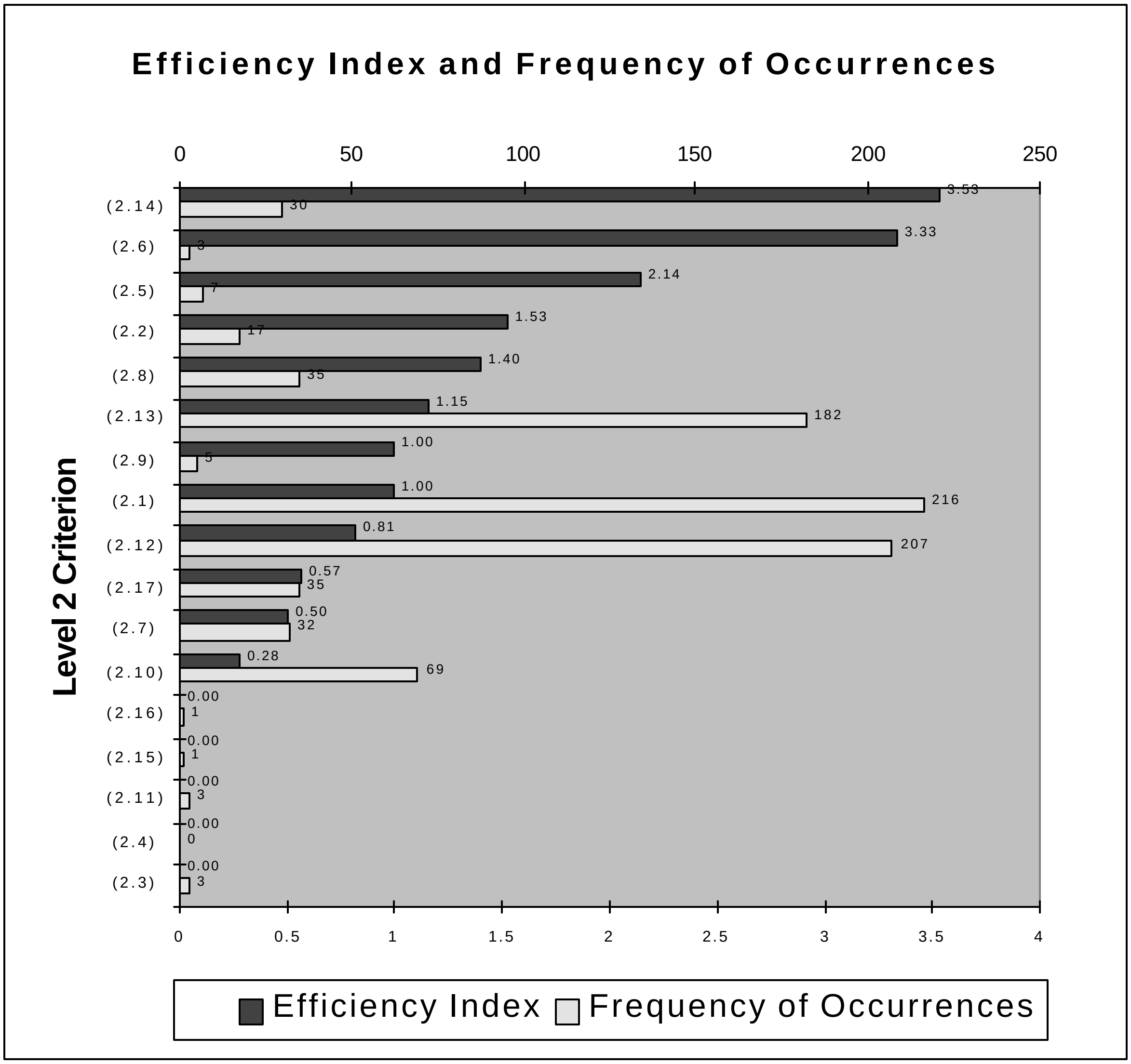
In Section 3 on Level One screening, one of the factors in both criteria 1.3 and 1.4 is the size of the pension plan. We have found that size is not a particularly relevant factor as reports that meet all other conditions of 1.3 or 1.4, at least among those tested, do not appear to contain any material compliance deficiencies. Accordingly, the plan size condition will be removed from both 1.3 and 1.4.

In spite of the apparent guarantee conferred upon public sector pension plans by Governments, it has been suggested that such plans should not be subject to any lesser degree of regulation than those of the private sector. We concur with this view. Accordingly, criterion 1.2 will be removed from our recommendation.

It has been suggested that multi-employer pension plans (or plans where the employer contribution obligation is fixed by collective agreements), by their nature, include an additional risk. In our final recommendation, we will add this as a criterion.

As noted in Section 4, up to 90% of those plans not screened out at Level One were selected for review at Level Two. To improve the overall effectiveness of Level Two screening, we examined the relative efficiency of the Level Two criteria to determine if any of the criteria can be eliminated without affecting the identification of material non-compliance situations. Figure 4 on the following page shows the efficiency index and frequency of occurrences for the Level Two criteria, in descending order of efficiency.

Figure 4



The following two alternative bases for Level Two screening have been considered:

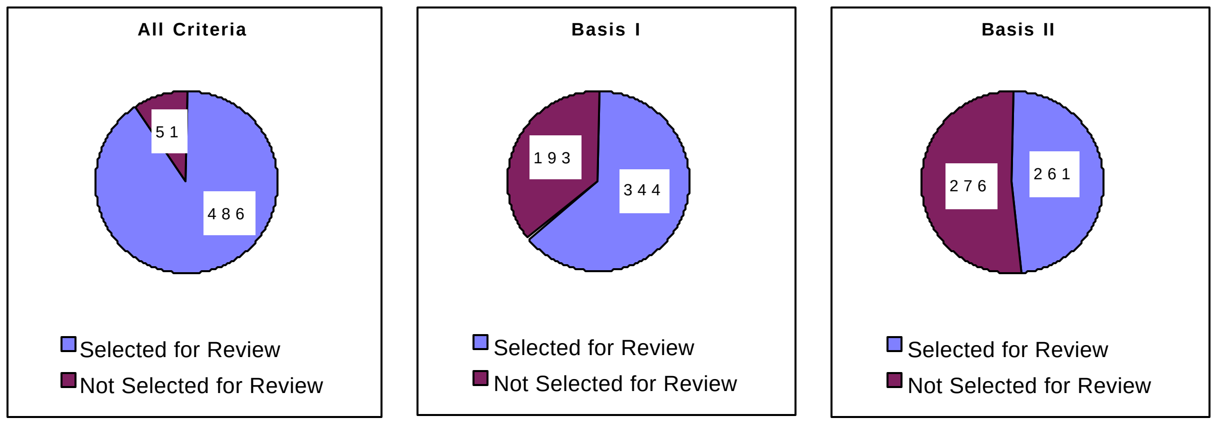
I Only criteria with an efficiency index of at least 1.0 are included in Level Two screening

II Same as Basis I but excluding criterion 2.13 (solvency concerns)

The latter basis requires some explanation. A plan's solvency status is sensitive to change in long term interest rates. As interest rates decline, a plan that did not previously exhibit solvency concerns may now indicate that condition, and yet the plan may be substantially in compliance with the Act and regulations. It appears that 2.13 (solvency concerns) is not a very stable criterion for identifying non-compliance situations.

Figure 5 shows the number of cases selected for detailed review under Bases I and II, as compared to that which resulted from the application of all proposed criteria.

Figure 5



Basis I

Under Basis I, 142 (i.e., 486 minus 344) fewer cases were identified as requiring a detailed review. However, six (6) of the previously identified Class B cases and five (5) of the previously identified Class C cases were omitted from being selected for detailed review.

The main compliance concern for the 6 omitted Class B cases all involved discrepancies between the plan provisions summarized in the reports and in the plan documents on file which were later found to be not up to date. There appeared to be no immediate risk to the security of members' benefits.

Four (4) of the omitted Class C cases are flat benefit plans where future scheduled benefit increases were not properly accounted for in the valuation. These omitted cases would be captured if this compliance deficiency is added as a criterion to Level Two screening.

The other omitted Class C case is a multi-employer pension plan for which the report showed that the contributions as required by collective agreements were not sufficient to provide for the benefits under the terms of the plan. The actuary recommended a reduction to future benefit accruals, but such reduction has not yet been implemented. This omitted case would be captured if a criterion that all multi-employer pension plans are selected for detailed review is added.

Basis II

Under Basis II, the number of cases selected for review was further reduced by 83 (i.e., 344 minus 261) but six (6) more Class B cases and two (2) more Class C cases were omitted. The omitted Class B cases involved either poor disclosures or discrepancies in the plan provisions between the reports and the plan documents. There appeared to be no immediate risk to members' benefits. As for the two omitted Class C cases, staff obtained clarifications from the actuary on the concerns raised and there were no compliance issues outstanding.

By adopting this alternative basis, overall screening effectiveness can be greatly enhanced without jeopardizing the identification of material non-compliance situations, provided that all multi-employer pension plans are selected for in-depth review and the following criterion is included for Level Two screening:

- Scheduled benefit increases have not been included in the going concern valuation or solvency valuation or both

It has been suggested that plans that have experienced solvency problems may well be the ones that stretch the use of assumptions, fall behind in contributions remittance, or fail to observe other provisions of the Act and regulations. Given that the security of members' benefits is in question, it has been suggested that criterion 2.13 (solvency concerns) should be retained as an early warning flag. FSCO staff will continue to monitor this alternative basis over the next 12 months to ensure none of the material non-compliance situations are overlooked, and will determine at the end of the period if criterion 2.13 should be reinstated.

7. SUMMARY AND RECOMMENDATION

This paper presented an evaluation of the risk assessment criteria which were originally proposed in the April 1999 Consultation Paper. We introduced an *efficiency index* to analyse the relative efficiency of the criteria. By modifying the criteria used in Level Two screening, we demonstrated that overall screening effectiveness could be significantly improved.

Based on the analysis performed in Section 6, the following criteria are recommended to be used in an automatic screening process:

<u>Pre-Screening</u> ***(added before Level One and Level Two screenings)***		
0.1		Multi-employer pension plans are always selected for in-depth review
<u>Level One Screening</u> FVRs meeting one of the following criteria will **<u>not</u>** normally be selected for review:		
New #	**Old # ***	**Description of Criterion**
1.1	1.1	Plans that are designated plans
1.2	1.3	Plans that meet all of the following conditions: - the plan provides a final average earnings benefit - the ongoing funded ratio is .8 or higher - there are no solvency concerns - the going concern actuarial assumptions, cost method and asset valuation method are within guidelines, and - the solvency assumptions and methods are within guidelines
1.3	1.4	Plans that meet all of the following conditions: - the plan provides other than a final average earnings benefit - the ongoing funded ratio is .9 or higher - there are no solvency concerns - the going concern actuarial assumptions, cost method and asset valuation method are within guidelines, and - the solvency assumptions and methods are within guidelines
1.4	1.5	A full wind up, conversion, or merger is under review as of a date subsequent to the date of the valuation

* See Section 3

Level Two Screening Of the FVRs not eliminated by the Level One Screening, FVRs will be selected for detailed review if they meet any **one** of the following criteria:		
New #	**Old # ***	**Description of Criterion**
2.1	2.14	Shortfall in employer contributions from the last FVR exceeds 6 months of the required employer contributions as estimated in the last FVR filed[5]
2.2	2.6	Investment losses from the last FVR filed exceed 15% of going concern assets
2.3	2.5	Demographic losses from the last FVR filed exceed 10% of going concern liabilities
2.4	2.2	The solvency assumptions and/or methods are outside guidelines
2.5	2.8	The going concern funding ratio is less than 1 and has reduced by 0.1 or more from that reported in the last FVR filed
2.6	2.9	The market value of assets has reduced by 20% or more since the last FVR filed
2.7	2.1	Going concern actuarial assumptions, actuarial cost method or asset valuation method are outside guidelines and a FVR filed for the plan has not been reviewed within the last 7 years
2.8		Scheduled benefit increases have not been included in the going concern valuation or the solvency valuation or both (*this is an added criterion*)

* See Section 3

[5] This includes circumstances where the amount of contribution holiday taken by the employer exceeded the amount of surplus and/or prior year credit balance as disclosed in the last filed FVR.