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*Action to be taken*

*Voting Procedure*

TAKE NOTE	<b>FINANCE COMMITTEE</b> 325 <sup>th</sup> Meeting 17 June 2009	-
TAKE NOTE	<b>COUNCIL SESSION</b> 151 <sup>st</sup> Session 18 June 2009	-

**PENSION FUND**

**THE USE OF THE DISCOUNT RATE BY CERN**

**AND THE CERN PENSION FUND**

This document has been drawn up by the Administration of the Fund at the request of the external auditors.

## **THE USE OF THE DISCOUNT RATE BY CERN AND THE CERN PENSION FUND**

### **INTRODUCTION**

To date the actuarial calculations concerning the liabilities of the CERN Pension Fund have focused exclusively on the long-term capacity of the Fund's assets to cover the liabilities over time. This approach is totally consistent with the long-term nature of most pension funds' future liabilities. The discount rate used to measure the liabilities was set in accordance with this long-term view. Historically, at least since 1989, the actuarial reviews presenting the position of the Pension Fund have always been done using the concept of an "open-end fund" with a 30-year projection. Every three years, the reviews have been submitted to the Finance Committee and the Council. The Council decides on the main parameters used for the actuarial review projections, in particular the discount rate (technical interest rate), the rate of salary increase and the adjustment of pensions. The positions given by these actuarial reviews show, on the basis of a 30-year projection, the liabilities of the CERN Pension Fund and, due to the long-term view taken, provide the framework for decisions on how the Fund is to be managed (asset allocation, investment and funding policy). To measure the liabilities of the CERN PF, the discount rate used has traditionally been equal to the long-term expected return on assets (of the order of 5%). As a more prudent measure, the Council decided in 2005, within the Package of Equilibration Measures (CERN/FC/4993-CERN/2637), to reduce the technical interest rate from 5% to 4.5%.

### **THE INTRODUCTION OF IPSAS AT CERN AND ITS IMPACT ON THE LIABILITIES OF THE ORGANIZATION AS PLAN SPONSOR**

As a consequence of the introduction of IPSAS at CERN, the Organization has to estimate its pension fund liabilities in terms of the accrued retirement benefit entitlements of the employed and retired members as at the balance sheet date. The defined-benefits plan net liability for pension benefits corresponds to the present value of the defined-benefits obligations at the reporting date minus the fair value of the corresponding pension fund assets. This net liability is calculated on the basis of the provisions of accounting standard IPSAS 25 – Employee Benefits.

According to the provisions of IPSAS 25, the discount rate used to determine the present value of liabilities should be consistent with, *inter alia*, market interest rates. Therefore, in order to ensure compliance with the accounting standard, the Organization is obliged to apply a discount rate which reflects market rates. The appropriate discount rate as at 31 December 2008 applied by the Organization was that of the thirty-year Swiss Bond with an interest rate of 2.59%. One of the consequences of applying the provisions of IPSAS 25 is

thus that the Organization has to value its liabilities based on a discount rate that changes over time with market rates. This makes the liabilities very volatile. It should be noted that this accounting view of the liabilities was essentially devised as a means of measuring pension liabilities of private companies, which can be taken over or wound up at any time. It should also be noted that the calculation of financial liabilities under IPSAS 25 (as well as IAS 26) does not take into consideration the renewal of staff complements, which for an international public organization like CERN is a very important factor.

### **THE IMPLICATIONS OF THE INTRODUCTION OF IPSAS FOR THE CERN PENSION FUND AND ITS LIABILITIES**

The decision to introduce International Public Accounting Standards (IPSAS) at CERN has meant that the accounts of the Pension Fund have to be prepared in accordance with those principles as from 31 December 2008. In the absence of a relevant IPSAS standard for a pension fund (N.B. IPSAS 25 applies to the fund sponsor and not to pension funds themselves), reference is made to the relevant International Financial Reporting Standard (IFRS) / International Accounting Standards (IAS). The provisions of IAS26 – Accounting and Reporting by Retirement Benefit plans – have therefore been applied. Being an older standard, IAS 26 is less prescriptive than IPSAS 25. For this reason, the Pension Fund is at liberty to choose among a variety of actuarial assumptions, including the discount rate, for the purposes of calculating the current value of future liabilities. These assumptions, however, must be consistent with the past and anticipated rate of return and transparent.

The actuarial assumptions to be applied by the Fund have been discussed at length by the Pension Fund Governing Board (PFGB), in particular with regard to the question of consistency and coherence with the assumptions used by CERN. The actuarial assumptions decided by the PFGB are the same as those used for the CERN accounts with the exception of the discount rate of 4.5% decided by the Council in 2005 and used in the last actuarial review (CERN/FC/5226-CERN/2775) submitted to the Finance Committee and the Council in March 2008.

### **MARKET DISCOUNT RATE (2.59%-CERN) VERSUS LONG-TERM DISCOUNT RATE (4.5%-CERN PENSION FUND)**

IPSAS 25 seeks to give stakeholders a snapshot of an organization's liabilities in respect of employee benefits at the balance sheet date and in this regard it can be considered as appropriate for the sponsor of the fund. However, given the volatility inherent in market interest rates, the value of the liabilities under this method may vary substantially from one reporting period to another, increasing and decreasing the liabilities as interest rates move down and up. Therefore the adoption of market rates as a basis for the discount rate for the CERN Pension Fund would result in a misleading view of the financial position of the Fund and its liabilities, creating the impression when interest rates are low that immediate and

drastic corrective action is required and when interest rates are high that the Fund is in surplus.

In contrast the long-term discount rate used by the Fund stabilizes the impact of this actuarial assumption on the Fund's liabilities which are long-term in nature. Moreover, the long-term discount rate must be based on a realistic long-term rate of return on assets. Since inception in 1957 and taking into account the very negative result of 2008, the long-term return of the Fund (gross figure which includes inflation) has been 4.9% (see Pension Fund Annual Report and Financial Statements 2008, table 5, CERN2843-CERN/FC/5340).

The results obtained from the application of the two discount rates can be seen in the table below:

	31.12.2008	31.12.2007
Discount rate		
IPSAS 25 (Organization <sup>1</sup> )	2.59%	3.34%
IAS 26 (Pension Fund)	4.50%	4.50%
Liabilities		
IPSAS 25 (Organization)	5836 kCHF	5278 kCHF
IAS 26 (Pension Fund)	4803 kCHF	4775 kCHF
Underfunding		
IPSAS 25 (Organization)	2398 MCHF	830 MCHF
IAS 26 (Pension Fund)	1345 MCHF	274 MCHF

<sup>1</sup> It should be noted that the financial turmoil has caused a substantial drop in short and long term interest rates, leading to record lows in most countries. In the case of the Swiss 30 year market rates, the 10 year historical average is in the area of 3.5%.

## CONCLUSION

The present paper illustrates the complexity of setting the discount rate to measure the liabilities of the CERN Pension Fund. The two views provided in this paper, based on application of IPSAS 25 and IAS 26 respectively, illustrate the range of the value of pension liabilities using these two different approaches. The first one provides an estimate of the pension liabilities if CERN had been closed at the end of 2008 (IPSAS 25) by assessing future funding obligations on the basis of pre-agreed assumptions and, for solvency reasons, at the market conditions (long-bond yield) prevailing at the end of 2008. The second view is based

on the assumption of CERN's continued existence and also gives an estimation of the pension liabilities under pre-agreed assumptions but this time assuming a discount rate set at the level of the return that the Pension Fund could legitimately be expected to achieve by investing in a diversified portfolio within a time horizon of a full business cycle (15 to 20 years).

To conclude, the level of the discount rate to be used will depend among other things and simultaneously on the time horizon, the funding level (which is related to the Pension Fund's capacity for investment risk) and the indexation rules (real discount rate versus nominal discount rate). To date, the 4.5% discount rate used by the CERN Pension Fund is consistent with the nominal long-term results achieved and with the medium-term prospects for investment return in nominal term. However, the present discount rate used by the Pension Fund is not hard and fast and is one of the subjects currently being addressed by PFGB Working Group 2 (on funding policy and principles) as part of the PFGB's review of all the actuarial assumptions in the context of the Fund's future funding policy. The Working Group is expected to report to the PFGB in the second half of 2009.

The CERN Council is invited to take note of the present document.