OIML

Evaluation of the actuarial liability from the OIML retirement plan at December 31st, 2010 in accordance with IAS19 Standard

(Report reproduced on the following pages)

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BIML

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February 7th, 2011

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Summary

1. Objective and approach

1.1 Objective of our intervention

jalma valuated the OIML Defined Benefit Obligation concerning its retirement plan by December 31st, 2010, according to IAS 19 Standard (Employee Benefits) within the OIML 2010 accounting period.

In accordance with the principles of GAAP IPSAS (International Public Sector Accounting Standard), to which OIML is subject and without any specific recommendation from IPSAS, the IFRS/IAS Standard is to be applied by default. As the "Employee Benefits" is not subject to any specific recommendation within the IPSAS principles, the valuation of the OIML liability concerning its retirement plan is assessed under IAS 19 Standard (Employee Benefits).

As the secretarial department of OIML, the BIML (International Bureau of Legal Metrology) sponsors the social liability valuation for OIML.

1.2 Approach of our intervention

The valuation is based on the analysis of documents in our possession and is the result of our understanding of the OIML existing retirement plan operation.

Verifying the evidence we received from OIML was not included in our intervention. Our audit work was therefore limited to consistency checks on data and assumptions provided and to a critical analysis of the assumptions.

The documents provided by OIML are :

- OIML staff regulations

- Convention establishing an International Organization of Legal Metrology

- Detailed data concerning the OIML retirement plan beneficiaries at December 31 2010

2. Presentation of the OIML retirement scheme

This part outlines the main principles defining the OIML retirement scheme.

General principles

French BIML agents and the Director of the BIML can benefit from the non mandatory OIML retirement scheme.

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The conditions of benefiting from the OIML retirement scheme are :

- To have worked at the BIML for more than 5 years

- To have paid contributions to the retirement fund during the whole period of employment with BIML.

The retirement pension shall be paid from the maximum age of termination of employment as fixed by the Staff Regulations (i.e. age 68 for the Director and age 65 for agents) or, for officers having left the Bureau before having reached that age, from age 60.

The retirement pension shall be paid quarterly in arrears at the beginning of the next trimester. The monthly amount of the retirement pension shall be 2% of the "average monthly salary over the period" per year of service, with a maximum of 35 years. This amount will be indexed to the variations in domestic prices in France (inflation adjustments).

Retirement pensions shall be paid from a retirement fund constituted as follows:

- BIML agents enrolled in the OIML retirement plan shall be subject to a monthly deduction of 8% of their salary, to be paid into the retirement fund,

- The BIML shall pay into the fund yearly and for each agent concerned, an amount such that, for each agent, a fund equal to 1/12 of the "average monthly salary over the period" per month of service from the start of his/her employment will be made up

Agents who have worked at BIML for 5 years or less, and who will therefore not benefit from the OIML retirement plan, shall be reimbursed the deductions made from their salary for the retirement scheme and they will receive in addition a compensation bonus, the amount of which shall be 5% of their salary.

Detailed rules

Provisions for agents who have enrolled in the OIML retirement scheme and who have worked at the BIML for more than 5 years spread between two or more periods, of which some were shorter than 5 years, shall be decided by special decision of the Committee.

An active agent, who justifiably (health, family…) elects to terminate his/her employment between 55 and 60 years of age may request to have a reduced pension paid immediately, the amount of the pension then being reduced by 6% for each year the pension is advanced.

A survivor pension shall be payable, subject to producing a death certificate :

- From the time of death of the BIML pensioner if he/she was in receipt of a pension

- From the time when the agent would have reached tage 60 in any other case.

The survivor pension shall be equal to 50% of the agent's pension.

Remarks about the "OIML retirement fund"

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The retirement fund is a reserve in the OIML liabilities. It is not an external fund (nor an asset for hedge accounting under IAS 19) in the OIML assets.

Both monthly deductions on OIML agents' salaries and OIML yearly payment of pensions, allowing the OIML retirement fund to be supplied, are a reserve endowment term (in the liabilities). However, this is not a funded plan, according to the IAS 19. In particular, OIML supports the actuarial risks inherent in the retirement plan.

3. Valuation of the retirement liability by December 31st, 2010

3.1 Description of the population concerned

By the end of 2010, there are 7 beneficiaries of the OIML retirement scheme, including :

- 2 active agents

- 5 retired people (including one widow pension).

3.2 Actuarial assumptions

3.2.1. Endogenous assumptions

➢ **Salary increase rate**

The calculation at December 31st, 2010 uses a unique and constant salary increase rate equal to 4% (ie 2,5% added to the actual inflation rate).

➢ **Employee turn-over rate**

It has been selected a employee turn-over rate of 0%.

➢ **Age of retirement**

The ages of retirement selected refer to the forecast retirement dates by the OIML management for each active agent.

This implicitly means that the average age of retirement selected is 61,5 years of age.

3.2.2. Exogenous assumptions

➢ **Discount rate**

The liability at December 31st, 2010 has been valuated based on a discount rate of 3,5%, which represents a risk-free yield to maturity adapted to the duration of the OIML liability (around 15 years).

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> ➢ **Forecast rate of inflation**

The projected rate of inflation for calculation purposes shall be 2,5%.

> ➢ **Life table**

The life table selected is the TV 88-90 table, also used by the insurance companies in the calculation of life annuities.

3.3 Calculation method of the Defined Benefit Obligation

In accordance with the requirements specified by the Standard IAS 19, the OIML Defined Benefit Obligation is calculated using the Projected Unit Credit method, with the allocation of benefits modality called "prorated term benefits".

In practice, the Defined Benefit Obligation (E), for a given agent, at the valuation date (n), is calculated using the following formula :

$$E_n = \frac{Anc_n}{Anc_v} \, D_v \, . \, P_n \, . \, T_n$$

With :

n   : date of valuation

v   : date of retirement

Anc_t : agent's length of service (within OIML) at the t date

D_v : agent's pension benefits acquired at the v date (pension rights once retired)

P_n : Probability for the agent to work for OIML at the date of retirement, from the date of valuation (n)

T_n : Discount factor (from the date of retirement to the date of valuation)

Comment

The agent's pension benefits acquired at the theoretical date of retirement (D_v) are defined as the value of the agent's retirement pension from its date of retirement (current value of future benefits from the date of retirement).

Calculation modalities of the retirement liability

The mathematical model developed for the purposes of this valuation does not take into account the probability of death for active agents before their date of retirement.

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Taking into account the probability of death of the active agent before his/her date of retirement would have no significant statistic consequence (consequence not higher than - 2%). This low statistical consequence is mainly explained by the demographic structure of the active population, whose average age is determined to be high (54 years of age).

Moreover, it has to be mentioned that the calculation method of the Defined Benefit Obligation selected, in accordance with IAS 19 Standard, is a statistical method based on the law of large numbers. For this reason, and also due to the comparitively small population of the retirement scheme (7 people at the end of 2010), the valuation we realized only presents a low level of robustness, especially regarding the mortality risk. More generally, for a person of the retirement scheme between his/her forecast statistical situation (as estimated at the date of valuation) and his/her future reality, a marginal divergence will result in a significant consequence on the future valuations of the retirement liability.

3.4 Results by December 31st, 2010

The amount of the Defined Benefit Obligation (DBO) by December 31st, 2010 is 2,158.5 KEur.

This retirement liability can be decomposed as follows:

Amounts are in KEur.

OIML	Population	2010 DBO	2011 forecast pension	2011 forecast normal costs	2011 forecast interest costs
Active agents	2	1 253,3	0,0	44,7	40,4
Retired agents	5	905,2	71,5	0,0	28,7
Total	**7**	**2 158,5**	**71,5**	**44,7**	**69,1**

The columns « 2011 forecast normal costs » and « 2011 forecast interest costs » are costs to be included in the OIML accounts for the accounting year 2011, if the evolution is consistent with the defined assumptions. The global cost of 2011 pension will be counterbalanced by a provision recovery.

Therefore, the forecast Defined Benefit Obligation at the end of 2011 is :

DBO_{2010} – Forecast pension $_{2011}$ + Forecast normal costs $_{2011}$ + Forecast interest costs $_{2011}$ = 2,205.9 KEur

The Defined Benefit Obligation revaluation at the end of 2011 will allow assessing the relevance of the assumptions defined.

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3.5 Evolution of the Defined Benefit Obligation from the end of 2009 to the end of 2010

At the end of 2009, the forecast OIML Defined Benefit Obligation for the end of 2010 was valuated 1,962.4 KEur.

The 196.1 KEur increase between the real OIML Defined Benefit Obligation valuated at the end of 2010 (i.e. 2,158.5 KEur) and the forecast OIML Defined Benefit Obligation for the end of 2010 as estimated at the end of 2009 (i.e. 1,962.4 KEur), can be decomposed as follows:

- **A 33.5 KEur increase from the updated assumption of Mr Magaña's length of contribution in the retirement scheme,**

    At the end of 2009, the Defined Benefit Obligation had been calculated based on the assumption of a total and constant participation in the retirement scheme from Mr Magaña of 15 years, from January 1st, 2001 until December 31st, 2015, and based on the beginning of his retirement pension payment from January 1st, 2016.

    At the end of 2010, the Defined Benefit Obligation is calculated based on the assumption of a total and constant participation in the retirement scheme from Mr Magaña of 10 years, from January 1st, 2001 until December 31st, 2010, and based on the beginning of his retirement pension payment from his 60th year of age birthday (May 22nd, 2012).

    This last assumption has two main consequences:

    - It reduces Mr Magaña's retirement rights acquired at the end of his participation in the retirement scheme (December 31st, 2010), from 30% to 20% of his last salary.

    - It anticipates the first payment of pensions of approximately 3,5 years.

    This second consequence has the strongest impact and induces the increase of the Defined Benefit Obligation, as seen by the end of 2010, due to a less important discount effect on pension.

- **A 2.4 KEur increase from the overall update of social data**

    This update aims to include in the valuation the real salaries and pensions observed for the year 2010 instead of the salaries and pensions forecast at the end of 2009 for the year 2010.

- **A 160,2 KEur increase from the updated discount rate assumption at the end of 2010**

    At the end of 2009, the Defined Benefit Obligation has been calculated based on a discount rate of 4%, in accordance with the rules of practice in terms of valuation and with the level of the financial markets at this time.

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At the end of 2010, in accordance with the same rules of practice and with the level of the financial markets at this time, the Defined Benefit Obligation is calculated based on a discount rate of 3,5%.

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