

## Disclosure of Embedded Value as at end of FY 2002

Millea Holdings Inc. (President: Kunio Ishihara), Tokio Marine Life Insurance Co. Ltd. (President: Sukeaki Ohta) and Nichido Life Insurance Co. Ltd. (President: Tetsuo Kamioka) hereby disclose the Embedded Value (“EV”), being one of the measures of the economic value of the life insurance business held by Millea Holdings, as shown in the attachment.

### Summary

The EV as at 31 March 2003 is Yen 139.2 billion, which is Yen 0.1 billion below that of the previous fiscal year. As a result, the ROE for FY2002 was minus 0.1%.

Table 1 (Yen billion)

|                                      | FY2000 | FY2001 | FY2002 |
|--------------------------------------|--------|--------|--------|
| Adjusted Net Worth                   | 48.9   | 47.8   | 54.3   |
| Value of In Force Business           | 67.5   | 91.6   | 84.9   |
| EV as at End of the Fiscal Year      | 116.4  | 139.4  | 139.2  |
| Value of New Business <sup>(*)</sup> |        | 12.7   | 8.1    |

(\*) The value of new business issued in FY2001 has been calculated using a discount rate of 7% as used in the valuation of new business issued in FY2002.

Table 2 (Yen billion)

|                    | FY2001 | FY2002 |
|--------------------|--------|--------|
| Change in EV       | +23.0  | -0.1   |
| Average EV         | 127.9  | 139.3  |
| ROE <sup>(*)</sup> | 18.0%  | -0.1%  |

(\*) ROE = Change in EV / Average EV

## Embedded Value as at end of FY 2002

### 1. Embedded Value

Embedded Value (“EV”) is a method of assessing the economic value of a life insurance business and its performance, and is calculated as “**Adjusted Net Worth plus Value of In Force Business**”. EV is widely adopted in Europe, Canada, Australia and other countries.

“**Adjusted Net Worth**” comprises shareholder equity plus contingency reserves (after tax) and price fluctuation reserves (after tax) which are regarded as appropriate to be added to net worth.

“**Value of In Force Business**” is based on “annual profit (after tax)” expected to be generated by the in force business. The present value is calculated by discounting future distributable shareholder profits, less surplus required to be retained in order to maintain a certain level of solvency margin, using a discount rate adjusted by a risk premium (risk discount rate or “RDR”).

### 2. EV as at 31 March 2003

#### (1) EV as at 31 March 2003

The EV as at 31 March 2003 is Yen 139.2 billion comprising Adjusted Net Worth of Yen 54.3 billion and Value of In Force Business of Yen 84.9 billion.

Table 1-1: Combined Values (Yen billion)

|                                      | FY2000 | FY2001 | FY2002 |
|--------------------------------------|--------|--------|--------|
| Adjusted Net Worth                   | 48.9   | 47.8   | 54.3   |
| Value of In Force Business           | 67.5   | 91.6   | 84.9   |
| EV as at End of the Fiscal Year      | 116.4  | 139.4  | 139.2  |
| Value of New Business <sup>(*)</sup> |        | 12.7   | 8.1    |

(\*) The value of new business issued in FY2001 has been calculated using a discount rate of 7% as used in the valuation of new business issued in FY2002.

Table 1-2: Tokio Marine Life (Yen billion)

|                                      | FY2000 | FY2001 | FY2002 |
|--------------------------------------|--------|--------|--------|
| Adjusted Net Worth                   | 32.4   | 32.8   | 37.4   |
| Value of In Force Business           | 59.9   | 80.7   | 79.9   |
| EV as at End of the Fiscal Year      | 92.2   | 113.5  | 117.3  |
| Value of New Business <sup>(*)</sup> |        | 11.3   | 7.5    |

(\*) The value of new business issued in FY2001 has been calculated using a discount rate of 7% as used in the valuation of new business issued in FY2002.

Table 1-3: Nichido Life (Yen billion)

|                                      | FY2000 | FY2001 | FY2002 |
|--------------------------------------|--------|--------|--------|
| Adjusted Net Worth                   | 16.5   | 15.1   | 17.0   |
| Value of In Force Business           | 7.6    | 10.8   | 5.0    |
| EV as at End of the Fiscal Year      | 24.1   | 25.9   | 22.0   |
| Value of New Business <sup>(*)</sup> |        | 1.4    | 0.6    |

(\*) The value of new business issued in FY2001 has been calculated using a discount rate of 7% as used in the valuation of new business issued in FY2002.

## (2) Change in EV and ROE

Millea Holdings has adopted the change in EV and ROE <sup>(\*)</sup> as a measure for assessing the performance of its life insurance business. The EV for FY2002 decreased by Yen 0.1 billion from one year previously and the ROE was minus 0.1%.

Table 2-1: Combined Result (Yen billion)

|                    | FY2001 | FY2002 |
|--------------------|--------|--------|
| Change in EV       | 23.0   | -0.1   |
| Average EV         | 127.9  | 139.3  |
| ROE <sup>(*)</sup> | 18.0%  | -0.1%  |

Table 2-2: Tokio Marine Life (Yen billion)

|                    | FY2001 | FY2002 |
|--------------------|--------|--------|
| Change in EV       | 21.3   | 3.8    |
| Average EV         | 102.9  | 115.4  |
| ROE <sup>(*)</sup> | 20.7%  | 3.3%   |

Table 2-3: Nichido Life (Yen billion)

|                    | FY2001 | FY2002 |
|--------------------|--------|--------|
| Change in EV       | 1.8    | -3.9   |
| Average EV         | 25.0   | 23.9   |
| ROE <sup>(*)</sup> | 7.0%   | -16.4% |

(\*) ROE = Change in EV / Average EV

### 3. Major Assumptions

The following are the major assumptions used in calculating the value of in force business.

| Assumption                     | Basis of Assumption  |
|--------------------------------|--|
| Mortality & Morbidity          | Based on past experience by mortality and morbidity type, and policy year.<br>For policy years where no experience data was available, assumptions have been based on industry statistics.   |
| Lapse & Surrender              | Based on past experience by line of business, premium mode and policy year.  |
| Expense                        | Based on past actual expenses, expressed as unit costs per in force policy and percentage of premiums.   |
| Investment return on new money | Assumed to be invested in Japanese government bonds (JGB) matched to the duration of liabilities.<br><br>The JGB yield used is the yield as at the valuation date of the EV (being the end of the fiscal year) as shown below.<br><br>FY 2001: 1.46% (10 years), 2.08% (20 years) and 2.49% (30 years)<br>FY 2002: 0.72% (10 years), 1.16% (20 years) and 1.27% (30 years) |
| Tax rate                       | Based on experience (36.2%).   |
| Solvency margin ratio          | Assumed to maintain a solvency margin ratio of 1000%.  |
| Risk Discount Rate             | Set by adding a risk premium of 6% to the risk free rate (the 20-year JGB yield) (rounded to the nearest 1%).<br><br>FY 2001: Risk free rate (2.08%) + 6% → 8%<br>FY 2002: Risk free rate (1.16%) + 6% → 7%  |

#### Relationship between Investment Return on New Money and Risk Discount Rate

##### a. Investment Return on New Money

New money is assumed to be invested in JGBs matched to the duration of liabilities.

As JGB yields fell from the previous fiscal year (by approximately 1% for 20-year bonds), the EV has been calculated on the assumption that the investment return on new money is lower than the assumption adopted in the previous year, in line with the reduction in government bond yields at each duration.

##### b. Risk Discount Rate (RDR)

The RDR has been set by adding a risk premium of 6% to the risk free rate (the 20-year JGB yield), rounded to the nearest 1%. While the risk premium has not been changed between FY2001 and FY2002, the RDR has been reduced by 1% in line with the reduction (of approximately 1%) in the risk free rate.

Millea Group has set the risk premium at 6.0% as the required level for our domestic life insurance business.

**c. Relationship between Investment Return on New Money and Risk Discount Rate**

Both have reduced in line with each other. That is, the assumed investment return on new money and the RDR have each been reduced in line with market interest rates (JGB yields), excluding the difference generated as a result of the RDR having been rounded to the nearest 1%.

**4. Effect of Changes in Assumptions (Sensitivities)**

The tables below show the change in EV value arising from changes to assumptions.

Table 3-1: Combined Result (Yen billion)

| Change in Assumption                         | Change in Value | EV    |
|--|-----------------|-------|
| Mortality & Morbidity rates up 10%           | -13.7           | 125.5 |
| Surrenders up 10%                            | -0.5            | 138.8 |
| Expenses up 10%                              | -2.6            | 136.7 |
| Investment return (JGB yield) up 0.25% (*)   | +10.2           | 149.5 |
| Investment return (JGB yield) down 0.25% (*) | -11.7           | 127.6 |
| Solvency margin ratio 800%                   | +0.5            | 139.7 |
| RDR down 2.0% (RDR 5%)                       | +21.6           | 160.9 |
| RDR down 1.0% (RDR 6%)                       | +9.9            | 149.1 |
| RDR up 1.0% (RDR 8%)                         | -8.4            | 130.9 |
| RDR up 2.0% (RDR 9%)                         | -15.5           | 123.7 |

(\*) It has been assumed that the discount rate is unchanged at 7% irrespective of the change in the assumed investment return.

Table 3-2: Tokio Marine Life (Yen billion)

| Change in Assumption                         | Change in Value | EV    |
|--|-----------------|-------|
| Mortality & Morbidity rates up 10%           | -12.1           | 105.2 |
| Surrenders up 10%                            | -0.5            | 116.8 |
| Expenses up 10%                              | -2.2            | 115.1 |
| Investment return (JGB yield) up 0.25% (*)   | +8.8            | 126.1 |
| Investment return (JGB yield) down 0.25% (*) | -9.9            | 107.4 |
| Solvency margin ratio 800%                   | +0.5            | 117.8 |
| RDR down 2.0% (RDR 5%)                       | +20.2           | 137.4 |
| RDR down 1.0% (RDR 6%)                       | +9.2            | 126.4 |
| RDR up 1.0% (RDR 8%)                         | -7.7            | 109.5 |
| RDR up 2.0% (RDR 9%)                         | -14.3           | 102.9 |

(\*) It has been assumed that the discount rate is unchanged at 7% irrespective of the change in the assumed investment return.

Table 3-3: Nichido Life (Yen billion)

| Change in Assumption                         | Change in Value | EV   |
|--|-----------------|------|
| Mortality & Morbidity rates up 10%           | -1.6            | 20.4 |
| Surrenders up 10%                            | 0.0             | 21.9 |
| Expenses up 10%                              | -0.4            | 21.6 |
| Investment return (JGB yield) up 0.25% (*)   | +1.4            | 23.4 |
| Investment return (JGB yield) down 0.25% (*) | -1.8            | 20.2 |
| Solvency margin ratio 800%                   | 0.0             | 22.0 |
| RDR down 2.0% (RDR 5%)                       | +1.5            | 23.5 |
| RDR down 1.0% (RDR 6%)                       | +0.7            | 22.7 |
| RDR up 1.0% (RDR 8%)                         | -0.6            | 21.3 |
| RDR up 2.0% (RDR 9%)                         | -1.2            | 20.8 |

(\*) It has been assumed that the discount rate is unchanged at 7% irrespective of the change in the assumed investment return.

### Investment Return Sensitivity

The change in assumed investment return has been applied on the basis of an assumed shift in the yield curve of JGB yields. A change in the market value of assets due to the assumed shift in the yield curve has also been allowed for.

As already noted, the discount rate has been rounded to the nearest 1%. As noted in the tables above, the EV is calculated on the assumption that the discount rate is unchanged under the scenarios in which the investment return changes by  $\pm 0.25\%$ .

### Discount Rate Sensitivity

The discount rate is dependent on market interest rates and on the risk premium. For the purpose of the above sensitivities, the EV has been re-calculated on the basis that the risk premium changes without any change in market interest rates.

## 5. Analysis of Movement of EV

Table 4 (Yen billion)

|  | Combined Result | Tokio Marine Life | Nichido Life |
|--|-----------------|-------------------|--------------|
| Value added by new business                          | 8.1             | 7.5               | 0.6          |
| Effect of change in interest yields                  | -27.8           | -21.7             | -6.1         |
| Effect of change in discount rate                    | 11.1            | 9.6               | 1.5          |
| Release of the discounted value of in force business | 7.3             | 6.4               | 0.9          |
| Variances between experience and assumptions         | 2.3             | 2.3               | 0.0          |
| Other  | -1.1            | -0.3              | -0.8         |
| Total  | -0.1            | 3.8               | -3.9         |

The movement in EV consists of two major components, the value added by new business (ie new business written during FY2002) and others.

**a. Value Added by New Business**

The value of new business written in FY2002 was Yen 8.1 billion, which decreased by Yen 4.6 billion from the value of new business written in FY2001 (of Yen 12.7 billion) based on the same assumptions.

An increase in business volume for FY2002 increased the value of new business. However, since the assumed future investment return was reduced due to the significant fall in interest yields from FY2001, the interest surplus of new business decreased significantly (for some products, this has resulted in a projected interest loss). As a result, the negative effect due to the reduction in interest rates exceeded the positive effect arising from increased business volume.

Table 5: Changes in Interest Yields in FY2002 (JGB yield by maturity)

|          | 31 Mar. 2002 | 30 June 2002 | 30 Sep. 2002 | 31 Dec. 2002 | 31 Mar. 2003 |
|----------|--------------|--------------|--------------|--------------|--------------|
| 10 years | 1.46%        | 1.34%        | 1.18%        | 0.93%        | 0.72%        |
| 20 years | 2.08%        | 1.96%        | 1.84%        | 1.55%        | 1.16%        |
| 30 years | 2.49%        | 2.26%        | 2.03%        | 1.74%        | 1.27%        |

**b. Others**

The reduction in EV due to the effect of changes in interest rates (of Yen 27.8 billion) is relatively large, and is caused by the significant fall in interest rates from the end of FY2001. Tokio Marine Life, which represents most of the assets of the two companies, manages the volatility of interest surplus to changes in interest rates through the application of asset-liability management. Nevertheless, a considerable impact was unavoidable due to the sharp and significant fall in interest rates during FY2002.

The EV increased by Yen 11.1 billion as a result of the reduction in RDR in line with the decline in interest rates (from 8% for FY2001 to 7% for FY2002).

Since the investment return and the RDR are set in line with the risk free rate at the fiscal year end, a part of the effect of the interest rate movement (having a negative impact on EV) is offset by the effect of the reduced discount rate (having a positive impact on EV). The balance of the effect is minus Yen 16.7 billion.

**6. Review by Independent Actuarial Firm**

To assure the validity and appropriateness of the EV calculation, Tokio Marine Life engaged Tillinghast, an independent actuarial firm, to review its EV and obtained the opinion from Tillinghast shown below.

Nichido Life also obtained Tillinghast's opinion which is identical to that for Tokio Marine Life.

TILLINGHAST OPINION ON EMBEDDED VALUES OF TOKIO MARINE LIFE ("TML") AS AT 31 MARCH 2002 AND 2003

Tillinghast reviewed the embedded values of TML as at 31 March 2002 and 2003, as calculated by TML.

In particular, Tillinghast reviewed the methodology and assumptions adopted, and the embedded value results calculated by TML.

Tillinghast concluded that

- the methodology is in accordance with traditional actuarial embedded value techniques (based on deterministic discounted cash flow valuation methods);
- the assumptions are reasonable for this purpose; and
- the results appear reasonable given the methods used and the assumptions selected.

This review was carried out for the benefit of TML. In performing its review, Tillinghast relied extensively on a substantial body of information supplied by TML and did not carry out an independent review of this information.

Financial projections used as a basis for the embedded value were developed based on a number of assumptions as to the current and future operating environment of TML. It should be recognised that actual results can vary from those projected, even though the assumptions used were reasonable.

The values shown are not intended to represent an opinion of market value and should not be interpreted in that manner.