EMPLOYEES' PENSION SCHEME, 1995

8TH VALUATION REPORT

AS ON 31.3.2004

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To
Employees' Provident Fund Organisation
(Ministry of Labour Government of India)
Bhavishyanidhi Bhavan
14 Bhikaji Cama Place
New Delhi 110066

Dear sirs;

As desired by you in you letter Actuary/18(3)2003/8th val/Fin. Inf/376 Dated 7th April 2005, we have conducted the 8th Valuation of Employees' Pension Scheme as on 31.03.2004, and have pleasure to submit our report on the same.

Thanking you

Yours faithfully
For M/S. K.A.PANDIT

(MG Diwan)
Dated : 25th April 2005

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Employees' Pension Scheme, 1995. (EPS 95)

Executive Summary of eighth valuation report as on 31st March 2004.

I have completed the valuation of the assets and liabilities of the EPS 95 as on 31st March 2004.

Information about members:

The total membership of the EPS 95 Scheme as on the valuation date was 2,80,90,458 out of which data in respect of 1,47,30,766 members were provided. On a thorough scrutiny the information about 35,84,342 members was found consistent and complete. Based on this sample, after a careful study of the exits on various counts from the EPS and EPF Schemes over the last five years, a projection was made to arrive at the estimate of information of all members in respect of age, salary and duration since entry. The valuation was made on the basis of this projection.

Investments:

The funds of the EPS 95 Scheme are partly held in the Public Account with the Government of India and the balance is held with the EPF Authorities. The amount in the Public Account is built up by adding Government Contribution of 1.16% to the opening balance as on 15-11-95. The Government has, also, been adding interest to the account balances. Currently the rate at which interest is being credited is 8.5% per annum. No payments are made out of this account. The balance of the fund with the EPF authorities is utilised to pay the Scheme benefits and also to meet administrative expenses. The balance of the Fund is invested as per the guidelines of the Government by the Fund Manager, SBI. This process is regularly reviewed and subjected to periodical audit by the SBI. The officials of the EPF are associated with this review. It is necessary to strengthen this process further with the increased association of the EPF officials.

The Government of India has recently set up an interim Pension Regulatory Authority which is expected to authorise some Fund Managers to manage the Pension Funds. The regulations that may be laid down for investment of the funds are expected to be more liberal than the regulations applicable now to the Pension

Funds. It is recommended that the same regulations be made applicable to the EPS Funds invested through the SBI as Fund Manager.

The investments of the EPS are valued at the Book value, which is the purchase price subject to the maximum limit of the face value. This is a safe and satisfactory process.
The book value of the investments is therefore taken for the valuation.

Interest Rate:

Interest rate is assumed to be 8.5% for the current valuation, which is same as used in seventh valuation.

Salary increases:

The annual salary increase of members assumed for this valuation has been taken at 7.5% for this valuation.

Withdrawals:

The withdrawal rates used for the valuation are based on the experience of this scheme and similar such schemes.

Valuation Results:

The valuation has disclosed a deficit of Rs. 22,021crores as on 31st March 2004. This represents an excess of value of liabilities over the value of assets on that date. This amount is significantly large and calls for corrective action. But if we look at the increment in liability it is 2,730 crores as compare to seventh valuation, which was 19,291 crores, which was mainly due to revision in the salary ceiling of Rs. 5,000 p.m. to Rs. 6,500 p.m. The deficit this year is mainly due to higher pay out on withdrawals and carried forward losses due to change in salary limit. The measures for corrective action recommended in the next para should be considered for implementation.

Recommendations:

a) The retirement age for members may be increased from 58 to 60 years. This measure alone can cover substantial part of the current deficit.

b) Withdrawals under the scheme need to be controlled. A review of all the benefits on withdrawal need to be made. Particularly the Tables B and D under Rule 12 need to be revised downwards in view of lower interest prevalent now. This step would ensure that there will be no progressive increase in the deficit.

c) The existing contribution rate of 8.33% should be raised suitably or the benefits under the scheme be reduced suitably.

d) Any change in the scheme benefits should always be done only after actuarial assessment and the recommendations the Actuary, may make, should be simultaneously implemented.

Introduction :

I have been requested by the EPF Organisation to conduct the Fifth, Sixth ,Seventh and Eight Actuarial Valuations of the EPS 95 as at 31st March 2001, 31st March 2002 , 31st March 2003 and 31st March 2004 respectively. I have the pleasure to give hereunder the Report on the eighth valuation conducted by me as on 31st March 2004.

The purpose of the valuation is to assess the values of assets and liabilities on the date of valuation and thus to determine whether there are enough assets to cover the liabilities; if so, to recommend any enhancements that may be made in the benefits under the Scheme and if not, to make such recommendations that are necessary to make the Scheme viable.

History :

The Scheme has been brought into effect from 16th November 1995 in replacement of the Family Pension Scheme 1971. The Scheme envisages that with a diversion of 8.33% out of the Employer's contribution and the diversion of 1.16% contribution going into the Family Pension Scheme to Provident Fund, pension benefits be provided to the members from their age of 58 years or to their dependants if the member dies while in service. Details of the pension benefits payable and the various options available there under are not stated here as they are detailed in the Scheme itself.

There are two categories of establishments covered under the Scheme. One category consists of establishments that are exempted from Provident Fund, the other consists of establishments not so exempted. The implementation of the Scheme as regards the second category was relatively simple as the EPF organization itself was receiving the Employers' contributions out of which 8.33% was required to be diverted to the Pension Scheme. The employers under the first category were however not readily willing to do so. They approached various High Courts challenging the legal validity of the Scheme. The matter has recently been decided by the Supreme court in favor of the Scheme. Thus for all practical purposes the EPS 95 Scheme is currently applicable fully to the unexempted establishments, with some of the exempted establishments getting the benefits under the Family Pension Scheme only. Now that Supreme Court has decided the matter, the EPS95 should be applicable to exempted establishment also.

Seven actuarial valuations have been made earlier to this valuation; the first as on 16th November 1996, the second as on 31st March 1998, the third on 31st March 1999 and then yearly valuation on each 31st March, seventh valuation was done on 31st March 2003. The first valuation was also independently reviewed by a group of two actuaries. A similar review of the Fourth valuation has recently been completed. The reports of the four actuarial valuations as also the reports of the two reviews were made available to me. I will like to place on record my appreciation of the pioneering work done by the Actuary who conducted the first four valuations as also by the reviewers. I also had the benefit of personal discussions with the Actuary who conducted the earlier four valuations, the two reviewers of the First valuation as also the two reviewers of the Fourth valuation. I have conducted the Seventh valuation last year. The EPS 95 authorities have also provided full cooperation in the preparation of the data and clarification on points raised from time to time. I am convinced that the EPF authorities have done their best in providing the necessary information and clarifications and they deserve to be complimented for the same.

Number of Members:

The number of members covered under the Scheme was 2,74,87,216 as on 31st March 2003. During the year 2003-2004 there was addition to this number through new employees and deletion on account of exits by various clauses. The number of members thus rose to 2,80,90,458 showing a net increase of 6,03,242. The details are given in Table 1 below:

Table -1	
Number of Members as on 1st April 2003	**27,487,216**
Exits during 2003-04:	
Death in Service	45,728
Superannuating	87,033
Retirements	90,212
Short Service Pensioners	205,101
Cessation (Withdrawals)	1,313,112
Disablements Retirements	134
Total Exits by all Causes	1,741,320
Total Net of Exits	25,745,896
New Employees joining during 2003-04	2,344,562
Number of Members as on 31st March 2004	**28,090,458**

Available information about members:

Out of the number of members of 2,80,90,458 the EPS 95 authorities were able to provide data in respect of 1,47,30,730 members i.e. about 52% of the total number. After a detailed analysis of this available data it was revealed that the information provided was complete and consistent in respect of 35,84,342 members only. This was taken as a starting point for estimating the data in respect of all the members. Though up till now Unclaimed Deposits have not been considered as a part of valuation, attention is to be given to the fact that there are certain amount of Unclaimed Deposits , for which member is entitled to the benefit, in absence of statistics, it is not possible to include them in this valuation. In future we recommend that the proper data on Unclaimed Deposits be collected and reflected properly in the valuation.

The available data, which constitutes just about 12.76 % of the total data, cannot be construed as a representative or a random sample of the total data. It was apparent from the study of the available data that it contained a larger proportion of older members than in the population of members. A large number of new members have been joining the scheme every year mostly at younger ages and a large number were leaving the service at relatively older ages. A detailed study was therefore made of the exits for various reasons during the last five years separately for EPS 95 members and the EPF members. On a careful analysis of this data a projection was made about the likely distribution of the total membership of the Scheme agewise along with duration since entry and salary. The pattern of distribution of these projected figures according to age, salary and duration since entry revealed a satisfactory picture and therefore these figures were adopted for the purpose of the valuation. I have reasonable confidence that they represent the population of members for all practical purposes. This procedure was similar to the procedure followed for the seventh valuation as on 31st March 2003 a These projections are consistent with those projections.

Number of Pensioners:

The number of pensioners receiving pensions increased from 14,41,676as on 31st March 2003 to 17,50,353 as on 31st March 2004. The comparative categorywise figures are given in Table 2 below:

Table 2		
Category	**Number of Pensioners as on**	
	31.03.2003	**31.03.2004**
Member Pensioners	750,657	962,999
Widow Pensioners	387,752	431,642
Child Pensioners	290,916	348,450
Orphan Pensioners	5,808	7,262
Others	6,537	0
Total	1,441,670	1,750,353

Out of these 17,50,353 pensioner's data in respect of 15,23,723 pensioners was made available. These data appeared to be adequate and representative of the total data. Figures of data in respect of all the pensioners projected from these available figures were therefore used for the purpose of this actuarial valuation.

Assumptions for Actuarial Valuation:

The process of actuarial valuation of the scheme involves some assumptions about future experience of certain parameters. The main elements involved therein are mortality, withdrawal rates, and pattern of salary increases and movement of interest rates. Usually these assumptions are determined on the basis of the study of past experience, assessing the present environment and modeling what could happen in the future. Let us examine these main parameters separately.

Mortality:

The available data regarding deaths in service is indicative of a mortality experience better than the general population and more or less comparable to the experience of the Life Insurance Corporation of India in respect of its policyholders as per the LIC (1994-96) Mortality experience. For the purpose of the first four valuations the valuing Actuary had applied a Mortality Table derived from the experience of the EPF and EPS Schemes. I have a feeling that due to the limitations of the data available under the Schemes the rates of mortality developed there from can only provide a guidance for comparison with a Standard Table. It was advisable to use a Standard Table for an actuarial valuation unless the experience indicates a significant deviation from the Standard Table. In my view therefore it will be advisable to use the LIC (1994-96) Table for the purpose of this valuation. This was the Table used for the purpose of the Fifth,sixth and seventh valuations, though the reviewer of Fourth valuation felt otherwise.

Withdrawal Rates:

The experience of the Scheme indicates a large outflow by way of withdrawals from the Scheme. The Scheme covers a large number of small establishments with less than 100 employees and a small number of large establishments employing more than 100 employees. Usual pattern of premature voluntary exits are not unusual in small establishment. It has been the general experience when such establishments are individually examined. Withdrawal Rates generally experienced by such establishments have been analysed by M/s K A. Pandit, a firm of Consulting Actuaries with which I am associated, as a partner. The firm has published withdrawal rates developed on the basis of this analysis. I have adopted these rates for this valuation also as was done for the Fifth sixth and seventh valuations as on 31st March 2001 , 31st March 2002 and 31st March 2003 after satisfying myself that they generally fit in with the past experience of this Scheme.

Salary increases:

The pattern of salary increases also follows the pattern of experience of small establishments. After a study of the average salaries according to duration of service in my opinion, an increase at an average rate of 7.5% per annum seems to be adequate for the future particularly in view of falling interest rates and controlled inflation rates.

Interest rates:

During the last couple of years the rates of return available on investment instruments permissible for such funds are decreasing. We should, however, bear in mind that this valuation is as of 31st March 2004 and should, therefore, take a view as of that date. The experience of the Scheme indicates that a rate of interest of 8.5% per annum as on that date was not unreasonable for accumulations of contributions as also for the purpose of the valuations of pensions. The Pension Fund is carrying on its investments at book values and the Fund holds quite a sizeable proportion of investments bearing coupon rates higher than 8.5%. The general practice of the Fund is to carry these investments to maturity. Thus this level of return will be available to the Fund for some years to come. The Fund is required to follow an active investment policy so that the highest possible return is available on its investments.

Other minor assumptions:

The process of valuation also involves some assumptions in respect of several parameters like proportion of married members, difference in ages of spouses, number of children in the family, possibilities of remarriages of widows and widowers, etc. The data available through censuses have been used for the purpose as was done in the Fifth sixth and seventh valuations. These assumptions have very minor impact on the valuation results.

Special provisions:

Provisions have been made in the valuation in respect of expenses the Fund has to bear and for reserve to take care of any inaccuracies resulting from incomplete data.

Results of the Valuation:

The results of the Actuarial valuation based on the projected figures of members and pensioners and on the assumptions detailed above have revealed a deficit of Rs. 22,021crores. The details of values of assets and liabilities as on 31st March 2004 are shown in Table 3 below:

Table -3			
Actuarial Valuation Results as on 31.03.2004			
(Figures in Crores of Rupees)			
Assets		Liabilities	
Fund balance	52,745	Pension Payable to Members	99,262
Future contr @9.49%	101,522	Death in Service	15,010
		Withdrawal Benefits	48,754
		Pension in Payment	12,269
		Expenses	662
Deficit	22,021	Reserve	331
Total	176,288		176,288

The results of this valuation are not unexpected. There was a large deficit in the last valuation as on 31st March 2003, which was mainly due to the increase in the maximum salary eligible for pension from 1st June 2001. The increase in the deficit this year is not very large. Unless some remedial steps are taken early the size of the deficit will grow in the future. These steps have been listed in the concluding remarks that follow.

Concluding Remarks.

The eighth valuation as on 31st March 2004 of the EPF 95 has thus disclosed a deficit of Rs. 22,021 crores. This situation was indicated by the trend disclosed by the earlier valuations. There was yet another factor that aggravated the situation in the form of declining interest rates which led to reduction in yield on the funds invested and also needed the reduction in the rate of interest assumption in this valuation to 8.5% per annum. The position was further aggravated in the Sixth valuation because the upper limit of eligible salary for pension has been raised from Rs. 5,000/- to Rs. 6,500/- with effect from 1st June 2001, i.e. before the date of the Sixth valuation. Though there will be corresponding increase in receivable contribution in the future, there is no way of collecting the additional contribution from members who had already been members of the scheme before the date of the change. This effect is reflected in the eighth valuation also.

Interestingly while there is an increasing deficit in the Fund the size of the Fund balances have been increasing from year to year. This is not an unusual phenomenon. In most such funds worldwide the contribution received from members in service taken together with the returns on the accumulations in the Funds invested exceed the outgo in the form of pension payments and incidental expenses. Thus, though the Fund balances increase, the growth in future liabilities in the form of pension payable to pensioners exceeds the growth in Funds invested leading to the increase in deficits. This position is likely to continue in this Fund for several years to come. Thus there is no problem in the generation of cash flow. Nevertheless it is usual to suggest remedial measures to eliminate the deficits altogether.

As stated in the report on the seventh valuation as on 31st March 2003, this valuation has also been made as if the Fund is closed for future new entrants; while in fact it is open for such entry. This is on the assumption that new entrants will bring in enough contributions to the Fund to meet the liabilities of benefits to them. Analysis has been done on the sustainability of the current contribution rate of 8.33% to finance the current benefits, it was seen that this rate are adequate for new members entering at less than 31 year of age. As we do not expect the entry age to be as low as 30 for all new entrant, further the future interest rates are expected to reduce, these will reduce the chance of covering the current deficit from the new entrants. Increasing the current rate to 10.33% from 8.33% with immediate effect will eliminate current valuation shortfall. In case this increase in rate is not possible, pensionable age may be increased to 60 from current 58 years.

During the period following the date of valuation, significant changes have taken place. Firstly the Supreme Court gave a decision confirming validity of the scheme. The PF Authority therefore, expects that all the organisations, which had filed the petition in the Supreme Court, will comply with the EPF-95 requirement or apply for exemption afresh. In the current economic environment, practically no organisation can offer a pension scheme better than EPS-95. A number of such organisations, therefore, are expected to make lump sum contributions for the past and contribute in the future to the fund. Number of members will increase substantially with corresponding increase in the fund, though there will be corresponding increase in liability, it is expected that the fund position will improve because most employees from these organisations are from relatively high salary earners. On the other hand, the second change of further fall in interest rates including the interest rate on compulsory deposit, is going to adversely affect the future. It remains to be seen as to what would be the net result, we do not expect the situation to be much different from what it is. The full impact of these changes is likely to be revealed when the ninth valuation as at 31.03.2005 is completed, when bulk of the exempted organisation would have joined the scheme.

The measures that could be considered are as follows:

1. There is need to establish a machinery to oversee the operations of the Fund Manager by the PF Authorities. The Government is planning the approval of Fund Managers under the new Pension Regulatory Authority. The flexibility in investment pattern that may be allowed to these Fund Managers should also be extended to the Fund Managers of the EPS 95.The SBI has been assessing the effectiveness of the operations by a system of internal audit, there is need for greater involvement of the EPS Authorities.

2. Whenever there is a proposal to increase the eligibility limit for pension the impact of the same should be assessed actuarially and concurrent steps be taken to implement the recommendations that the Actuary may make. This will ensure that such changes do not lead to enlarging the deficit. The increase in the pension eligibility salary from Rs. 5,000/- to the figure of Rs. 6,500/- made effective from 1st June 2001 has increased the liability, to the extent of about Rs. 10,000/- crores.

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3. The rate of contribution on salary should be suitably raised for the future from 8.33% to 10.33% as suggested above or in the alternatives benefits could be reduced for the future. This should be done after a proper examination of the scheme benefits by a team consisting of at least three Actuaries among others.

4. As suggested above, the age of normal retirement should be raised from 58 years to 60 years. Retirements at age 58 should be treated as early retirement. However employees continuing in service after attaining 60 years would be eligible to receive pension in the same manner as employees in service beyond 58 years as at present. The three percent deduction made for each year of early retirement needs to be raised to five percent with the upper limit on such deduction being raised to 50% from the present 25%. An assessment made on the basis of this valuation, indicates that the entire deficit would be wiped out if this recommendation is implemented

5. Immediate steps should be taken to ensure complete database for the valuation. While it should be our aim to get 100% of the data, at the same time, we must ensure its quality in terms of completeness and accuracy. Conclusions drawn from an inadequate database cannot be as satisfactory as could be drawn from a reliable database. The expected further improvement in the quality of database for the ninth valuation can lead to more reliable conclusions. We also understand that the steps have been taken to improve both quality and quantity of the data.

6. Immediate steps should be taken to set up an Actuarial Department in the EPF organization as recommended by the actuary in the previous valuations. Detailed recommendations regarding the composition of the Actuarial Department are being annexed . It should be the responsibility of this Department to take care of the database both as regards quantity and quality.

7. Arrangements should be made in association with a team of Actuaries to investigate the past experience of the Scheme in relation to mortality and withdrawal rates.

8. The experience of the Scheme so far indicates that there are a large number of withdrawals from the Scheme thus defeating the social security objective

of the Scheme. Apparently there is also a sizeable withdrawal from the scheme by persons who leave one employment taking the withdrawal benefits and joining the scheme again as a new recruit of another employer. A thorough review of the withdrawal benefits in the scheme is necessary to discourage such tendencies.

9. A revision is called for in the Tables B and D under Rule 14 to give effect to the changes in interest rates as also to discourage withdrawals.

10. Urgent steps should be taken to implement the Supreme Court judgment on EPS 95. This will bring in a large amount of unpaid contribution immediately.

11. The impact of the Schemes that may be developed by the approved Fund Managers after the New Pensions Regulatory Authority lays down their guidelines on the provisions of this Scheme need to be examined and the Scheme should be revised with particular reference to the provisions for exemptions.

MG Diwan

Dated :25th April 2005

EPS 8th Valuation Sample Data as on 31.03.2004

Age	Number	Salary	Sal*P.Ser
18	44,786	26,429,330	13,484,192
19	56,610	43,138,493	42,233,012
20	69,867	68,630,090	107,538,594
21	75,241	84,521,331	181,699,942
22	80,615	99,354,522	285,732,785
23	91,006	127,252,634	476,605,211
24	102,113	151,501,868	703,201,169
25	108,562	170,140,774	964,950,875
26	123,610	201,788,985	1,345,463,019
27	127,552	228,574,965	1,668,268,782
28	128,626	234,543,888	1,875,987,792
29	134,717	268,084,909	2,302,215,083
30	126,835	262,010,646	2,371,001,781
31	123,610	263,905,668	2,533,449,992
32	116,086	259,400,554	2,595,058,548
33	112,862	264,235,063	2,836,301,779
34	110,712	271,994,773	3,052,865,149
35	107,129	239,386,150	2,858,009,533
36	106,054	245,078,332	3,087,683,679
37	110,354	268,391,005	3,546,372,729
38	106,771	269,380,332	3,736,568,208
39	102,829	269,926,399	3,876,370,261
40	100,321	273,779,270	4,092,485,058
41	102,829	295,371,558	4,590,410,329
42	99,247	296,306,640	4,840,367,760
43	94,589	289,374,585	4,899,584,464
44	90,648	291,782,855	5,102,242,122
45	90,289	295,553,943	5,301,286,691
46	87,781	298,515,156	5,484,654,433
47	83,840	295,358,531	5,691,924,430
48	79,182	287,826,851	5,736,716,856
49	75,958	285,695,052	5,877,625,129
50	74,883	288,080,886	6,091,576,061
51	70,942	285,744,267	6,225,697,300
52	51,952	216,183,950	4,800,021,304
53	42,995	182,297,564	4,170,418,093
54	40,129	173,305,723	4,021,680,270
55	38,695	171,923,365	4,123,846,877
56	35,113	159,799,144	3,855,087,232
57	31,171	150,772,201	3,704,454,887
58	27,230	138,199,618	3,518,118,939
Total	**3,584,342**	**8,993,541,869**	**132,589,260,348**

EPS 8th Valuation Data as on 31.03.2004

Age	Number	Salary	Salary*P.Service
18	350,990	207,126,413	105,675,486
19	443,652	338,075,963	330,979,715
20	547,545	537,853,368	842,778,951
21	589,664	662,392,880	1,423,980,733
22	631,783	778,640,455	2,239,285,147
23	713,212	997,277,694	3,735,150,557
24	800,258	1,187,318,712	5,510,980,948
25	850,801	1,333,391,649	7,562,310,936
26	968,733	1,581,418,375	10,544,381,026
27	999,620	1,791,339,851	13,074,206,755
28	1,008,044	1,838,118,241	14,702,098,684
29	1,055,779	2,100,978,914	18,042,437,953
30	994,005	2,053,374,966	18,581,518,658
31	968,733	2,068,226,237	19,854,623,760
32	909,767	2,032,919,699	20,337,449,435
33	884,496	2,070,807,701	22,228,070,364
34	867,648	2,131,620,482	23,925,275,461
35	839,569	1,876,067,007	22,398,193,833
36	831,145	1,920,676,586	24,198,147,952
37	864,840	2,103,377,778	27,792,889,724
38	836,761	2,111,131,127	29,283,449,907
39	805,874	2,115,410,653	30,379,077,278
40	786,218	2,145,605,565	32,072,766,911
41	805,874	2,314,824,124	35,975,002,577
42	777,795	2,322,152,353	37,933,916,614
43	741,292	2,267,825,901	38,397,997,370
44	710,404	2,286,699,494	39,986,223,530
45	707,597	2,316,253,469	41,546,133,941
46	687,941	2,339,460,472	42,983,185,209
47	657,054	2,314,722,028	44,607,558,232
48	620,551	2,255,696,321	44,958,596,049
49	595,280	2,238,989,434	46,062,892,862
50	586,856	2,257,687,195	47,739,624,299
51	555,969	2,239,375,131	48,790,731,192
52	407,149	1,694,231,581	37,617,721,817
53	336,951	1,428,664,296	32,683,527,375
54	314,487	1,358,195,321	31,517,870,455
55	303,256	1,347,361,794	32,318,549,192
56	275,176	1,252,344,388	30,212,282,379
57	244,289	1,181,600,322	29,031,778,115
58	213,402	1,083,069,109	27,571,465,037
Total	**28,090,458**	**70,482,303,049**	**1,039,100,786,423**

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Setting of Actuarial Department within EPS Office

The EPF Authorities need to maintain an actuarial cell in their head office in Delhi to take care primarily of the following functions:

Looking at the volume of data and the benefits offered by the EPS, we suggest a setting up of an Actuarial cell within EPS at the head office at Delhi. This department should have atleast one Qualified Actuary who will head the cell, with atleast ten other Actuarial students with Finance and Statistical background to help functioning the department properly.

Database Management: This is the most crucial area for the actuarial cell, and four Actuarial students with statistics and pension background could be put in this department. It has been seen that the quality and quantity of the data supplied till now is not satisfactory. Data supplied since last three valuation was not more than 20%. This is not the right size of sample to project the data, unless this sample is representative of population. Continuous effort is to be made to keep database update as meaningful analysis could be done with on this data. Knowledge about Pension and statistical background will help persons updating the data with proper understanding. The Asset database also can be managed by the same cell, this cell will look at the number of organizations and contributions to be received from them.

Investigation on Mortality and Withdrawal rates : As pension benefits depend on both pre and post service mortality rates, and looking at large number of membership data, it is advisable to use the scheme specific rates. Data can be obtained to make analysis on the mortality rates. Simmilarly withdrawal rates are important for analysis as large portion of liability is arising out of withdrawal rates. We suggest another four people for this cell, as specially with statistical background, or person from any insurance company with experience in the mortality investigation.

Investment : Pension is a long term liability and assets are to be held for as long as fifty to sixty years. There are some short term liabilities also. A matching of investment to liability is essential to maximize the fund. This either could be given to external agencies and monitored internally or could be done inhouse. A person with pension and investment background is ideal for such jobs, you may have two employees in this cell.

Actuarial students are available with different level of qualifications, initially you may have a combination of students who have passed few subjects from 100 series, who have completed 100 series and have passed few papers from 300 series of Actuarial Society of India, or are holding a Post Graduate Diploma in Actuarial Science from a recognized University.

You may start this cell immediately, under a qualified actuary , or take a help from a consultant to set up an Actuarial department within EPS. A regular training program initially to brief the Actuarial staff can be organized to brief them on Past and Current Position of EPS.

Summary of Numbers of Contributing Members

Year	16/11/1996	31.03.1998	31.03.1999	31.03.2000	31.03.2001	31.03.2002	31.03.2003	31.03.2004
Members Start	-	14,909,984	20,171,577	23,119,390	21,922,194	23,543,290	25,572,161	27,487,216
New Entrants	14,909,984	3,597,940	3,271,362	3,243,802	3,175,443	3,146,498	3,737,691	2,344,562
Left	-	1,852,242	1,184,850	1,802,839	1,554,347	1,996,901	1,822,636	1,741,320
Adjusted		3,515,895	861,301	(2,638,159)	0	0		-
Members End	14,909,984	20,171,577	23,119,390	21,922,194	23,543,290	25,572,161	27,487,216	28,090,458

Valuation Summary

Figures in Rs. Crs.

Valuation Date	Liability	Future Contr.	Fund Balance	Surplus
16.11.1996	55,566	44,380	12,875	1,689
31.03.1998	79,472	63,464	17,247	1,239
31.03.1999	99,246	77,736	22,242	732
31.03.2000	126,614	98,920	27,764	70
31.03.2001	98,285	65,119	33,123	(43)
31.03.2002	139,691	83,513	39,042	(17,136)
31.03.2003	159,005	90,671	49,043	(19,291)
31.03.2004	176,288	101,522	52,745	(22,021)

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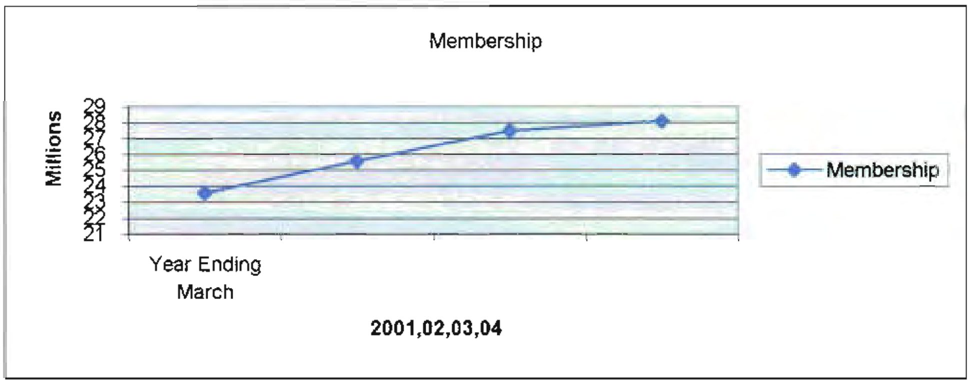
Membership Data and Valuation Shortfall For Year Endings 31.03.2001,02,03,04

Valuation As on	Number of Members
31.03.2001	23,543,290
31.03.2002	25,572,161
31.03.2003	27,487,216
31.03.2004	28,090,458



Valuation As on	Shortfall Rs.CRS
31.03.2001	43
31.03.2002	17,136
31.03.2003	19,291
31.03.2004	22,021