

Guidance Note - 11

ACTUARIAL INVESTIGATIONS OF RETIREMENT BENEFIT SCHEMES

I Classification

Recommended Practice except Section IV which will be Practice Standard

Legislation or Authority

There is no legislation which has an impact on this G.N.
AS-15 of the Institute of Chartered Accountants of India.

Application

For any actuary conducting an actuarial investigation in respect of any retirement benefit scheme in India, in particular, gratuities, pensions and leave encashment. The scope of this guidance note not only extends to consulting actuaries but also includes any actuarial investigations carried out by employed actuaries, employed by a Life or Pensions office or otherwise.

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Purpose

The purpose of this Guidance Note is:

- to bring about a common understanding in the profession on various actuarial terms used,
- to provide description of funding methods as commonly used,
- to tender advice on the various issues and assumptions involved in the actuarial investigation of retirement benefits,
- to achieve standardisation in reporting of the results by setting out the essential components of the report and
- to ensure transparency of the reports so as to ensure that they contain sufficient information to enable various interested parties like the Management., the Trustees, the employees, other actuaries, the Auditors, the Revenue and Regulatory authorities to appreciate the various assumptions and issues involved in the investigation.

Accordingly, this guideline has been split into three sub-sections. The first sub-section deals with the retirement benefit terminology and the standard funding methods. The next sub-section deals with various other issues including the assumptions involved in carrying out an actuarial valuation of retirement benefit schemes in India. Finally, the third sub-section, sets-out the essential components of a retirement benefit actuarial report.

II Retirement Benefit Terminology

1. Introduction

- 1.1 The Executive Committee wishes to emphasise that the publication of this subsection of the Guidance Note in no way inhibits actuaries from exercising professional judgement as to the valuation/funding methods they use and that the descriptions are primarily to be regarded by members as a useful form of shorthand, avoiding the necessity of full definition in cases where the methods are used, while ensuring consistent use of terminology. However, there is nothing to prevent members explaining, in addition, the funding method in their own words.
- 1.2 Where one of the methods is used with modification, for example, in the treatment of past service liabilities, reference should be made to the method adding a suitable description of the amendments. Where, however, alternate methods can be used as a reference point, the appropriate title should refer to the method which requires the least modification to achieve the desired result.

2.0 Glossary:

2.1 Actuarial Liability:

- 2.1.1 The value, using actuarial methods and assumptions, placed on the obligations under a retirement benefit scheme for outgoings, including expenses expected to fall on the scheme after the date to which the calculations relate. It includes, in the case of a pension fund, the present value of future installments of pensions in payment and related contingent benefits, the present value of future payments in respect of deferred pensions and a provision for all other members (referred to as active members). In the case of gratuity or leave encashment, it will only include provision for active members. The method of calculating the Actuarial Liability in respect of existing pensioners and deferred pensions is common to all funding methods. The method of calculation for active members is defined by specific funding method used.
If the actuarial investigation is being carried out for determining cost for accounting purposes, only the obligations of active members will be considered as that for pensions in payment and deferred pensioners will already have been taken into account during the service of these employees. The only time when pensioners and deferred pensioners will be considered for the purpose of costing will be when a benefit improvement is granted to current pensioners and deferred pensioners or valuation assumptions are changed.
- 2.1.2 In calculating the Actuarial Liability for active members as at the current date, where accrual of benefits is not uniform over the service life of the members, the scale of benefits appropriate to the assumed date of retirement, date of leaving service or date of death should be taken.
- 2.1.3 Whether or not allowance is to be made for discretionary payments, for example, discretionary increase to be made to pensions after commencement, is not specified by the method and the treatment of such payments should be describe in the valuation assumptions.
- 2.1.4 Whether the Actuarial Liability takes into account the present value of future contributions is part of the definition of specific funding methods.

2.2 **Actuarial Value of Assets:**

The value, following actuarial practice, placed upon the assets for the purpose of the valuation. It could be an assessed value, the market value or some other value.

2.3 **Actuarial Surplus:**

The difference between the Actuarial Value of Assets and the Actuarial Liability.

2.4 **Funding Ratio:**

The ratio of the Actuarial Value of Assets to the Actuarial Liability.

2.5 **Standard Contribution Rate:**

The contribution rate (employer and employee) appropriate to a particular funding method before taking into account any Actuarial Surplus. It is normally expressed as a percentage of pay qualifying for benefits under valuation (referred hereinafter as qualifying pay).

2.6 **Modified Contribution Rate:**

The contribution rate (employer and employee) obtained by adjusting the Standard Contribution Rate to allow for any Actuarial Surplus. It is normally expressed as a percentage of qualifying pay. There are various ways of amortising the Actuarial Surplus and hence of adjusting the Standard Contribution Rate. The method used should be appropriate for the purpose.

2.7 **Control Period:**

The period over which the Standard Contribution Rate has been calculated to remain constant, assuming that the Funding Ratio at the beginning and end of the period is 100 percent. The Control Period, which is normally one year or more, but which could be less than one year, should be specified.

2.8 **Current Service Cost:**

This is the present value of retirement benefits payable in the future in respect of the service in the current period.

2.9 **Past Service Cost:**

This is the present value, on the introduction of a retirement benefit scheme or on its amendment, of the units of benefits payable in the future in respect of service rendered prior to the current period. Furthermore, due to change in the funding method or actuarial assumptions adopted at an actuarial investigation, there can be

a Past Service Cost which can thus have an impact of reducing or increasing the Past Service Liabilities.

2.10 **Accrued Benefits:**

The benefits for service up to a given point in time, whether the benefits have vested or not. They may be calculated in relation to current earnings or projected earnings depending on the objective of the investigation.

2.11 **Vested Benefits:**

Vested benefits for active members are what they would unconditionally be entitled to on voluntarily leaving service. For deferred pensioners, vested benefits will simply be their preserved benefits and for current pensioners, the pensions, including where appropriate the related benefits for spouses or other dependents, to which they would be entitled.

3. **Specimen Descriptions of Accrued Benefits Funding Methods:**

- 3.1 Accrued Benefits Funding Methods are a major category of funding methods in which the Actuarial Liability for active members is based on service accrued up to the valuation date or to the end of the Control Period, as appropriate. The treatment of benefits not directly linked to service is not specified but left to actuarial judgement, subject to the need for consistency between successive valuations. The Standard Contribution Rate is derived from the definition of the Actuarial Liability appropriate to the particular Accrued Benefits Funding Method being used. It is the rate sufficient, after taking into account the Actuarial Liability at the beginning of the Control Period, to provide for the Actuarial Liability at the end of the Control Period.
- 3.2 Differences between the various Accrued Benefits Funding Methods arise from the treatment of increases in qualifying pay when calculating the Actuarial Liabilities for active members. This affects the value placed not only on the Actuarial Liability but also on the Standard Contribution Rate.
- 3.3 When projecting pay during the Control Period, or thereafter when required by the particular funding method, allowance is made for general increases in pay levels and also for career progression, where appropriate.
- 3.4 Contributions and payments of benefits during the Control Period and numbers of members, amounts of pension and qualifying pay at the end of that period are projected using a common method for all Accrued Benefits Funding Methods. Normally allowance is made for all types of decrements, for example, death in service, disability, early withdrawal, early and normal retirement etc. Whether or not allowance is made for new entrants during the Control Period is not specified but left to actuarial judgement and should be stated in the actuarial assumptions.
- 3.5 Standard Contribution Rates are calculated for Accrued Benefits Funding Methods by a common methodology, expressed in the following formulae:

n = Control Period

AL _o	=	Actuarial Liability calculated as at the valuation date.
AL _n	=	Actuarial Liability calculated as at the end of the Control Period in respect of active members and where applicable, pensioners and deferred pensioners where numbers of members, pay and pensions are projected to that date according to the actuarial assumptions.
B(o,n)	=	Expected payments of benefits during the Control Period, projected according to the actuarial assumptions.
S(o,n,)	=	Expected qualifying pay during the Control Period projected according to the actuarial assumptions.
SCR (o, n)	=	Standard Contribution Rate payable during the Control Period.

$$\text{Therefore, } \text{SCR(o,n)} = [\text{PV(AL}_n\text{)} - \text{AL}_o + \text{PV (B(o,n))}] / \text{PV(S(o,n))}$$

Where PV (***) stands for the present value of ***, as at the valuation date.

If future entrants are taken into account, both the numerator and denominator of the formula would make allowance for them.

3.6 Specific types of Accrued Benefits Funding Methods are described below in paragraphs 3.6.1. to 3.6.4.

3.6.1. Projected Unit Method :

The Actuarial Liability for active members either as at the valuation date or as at the end of the Control Period is calculated taking into account all types of decrement. In such calculations, qualifying pay is projected from the relevant date upto the assumed date of retirement, date of leaving service or date of death as appropriate. This is also known as the Projected Unit Credit Method.

3.6.2. Current Unit Method :

The Actuarial Liability for active members is calculated taking into account all types of decrement. In calculating the Actuarial Liability as at the valuation date qualifying pay is not projected. In calculating it as at the end of the Control Period qualifying pay is projected to that date and no allowance made for any further increases.

3.6.3. Defined Accrued Benefit Method :

The Actuarial Liability for active members either as at the valuation date or as at the end of the Control Period is calculated on the assumption that the scheme will be discontinued on those dates. As with the other methods, the Actuarial Liability is normally assessed on the basis of actuarial assumptions consistent with those used for the long term funding. It is assumed that members will be entitled to the discontinuance benefits which are defined in the rules of the scheme before reduction of benefits under the application of any priority rules in a fund with a

shortfall in assets. The Discontinuance Funding Ratio will be certified by reference to the discontinuance benefits defined in the rules.

3.6.4. Projected Accrued Benefit Method :

The Projected Accrued Benefit Method relates only to the calculation of the Actuarial Liability as at the valuation date. The Actuarial Liability for active members is calculated as for the Projected Unit Method.

4. Specimen Descriptions of Prospective Benefits Funding Methods

- 4.1 Prospective Benefits Funding Methods are a further major category of funding Methods. The Actuarial Liability for active members is based on the total benefits expected to be awarded, taking into account both the service accrued up to the valuation date and potential service after that date. Allowance is made for contributions to be paid after the valuation date at the level of the Standard Contribution Rate.
- 4.2 When calculating the present value of benefits, pay is always projected upto the assumed age of retirement, date of leaving service or date of death as appropriate. When valuing future qualifying pay on which contributions will be charged, pay is always projected over the period for which contributions will be paid. Allowance is made both for general increases in pay levels and also for career progression, where appropriate.
- 4.3 Under all Prospective Benefits Funding Methods allowance is normally made for all types of decrement when calculating both the Actuarial Liability and the Standard Contribution Rate.
- 4.4 The Actuarial Liabilities are calculated for Prospective Benefits Funding methods by a common methodology, expressed in the following formulae:

$ALo =$ Actuarial Liability calculated as the valuation date.
 $TBo =$ Total benefits expected to fall due for payment after the valuation date.
 $So =$ Expected future qualifying pay in respect of active members.
 $SCRo =$ Standard Contribution Rate payable from the valuation date.
Therefore,
 $ALo = PV(Tbo) - SCRo. PV (So)$
Where PV(***)stands for the present value as the valuation date of ***

- 4.5 Differences between the various Prospective Benefits Funding Methods arise from the method used to calculate the Standard Contribution Rate. This affects the value placed not only on the Standard Contribution Rate but also on the Actuarial Liability.
- 4.6 Specific types of Prospective Benefits Funding methods are described below in paragraph 4.6.1 to 4.6.3.
- 4.6.1 Entry Age Method:
The Standard Contribution Rate is determined as the contribution rate which, if payable over the expected future membership of a group of new entrants, would provide for the total expected benefits payable in respect of that group. The method does not define the group. For example, it could be the group consisting of current entrants to the scheme or the entrants who gave rise to the current active members. A single average age of entry or

a distribution of entry ages could be used. Alternatively, the Actuarial Liability could be calculated individually for each active member.

4.6.2 Attained Age Method:

The Standard Contribution Rate is determined as the contribution rate which, if paid over the expected future membership of the active members, would provide for the expected benefits payable in respect of them arising from their future service. The value of the future service benefits is taken as the difference between the value of total benefits and the value of the past service benefits calculated as for the Projected Unit Method. This results in the Attained Age Method and the Projected Unit Method having the same Actuarial Liability but different Standard Contribution Rates.

4.6.3 Aggregate Method:

No Standard Contribution Rate is determined. A Modified Contribution Rate is calculated directly as the contribution rate which, if paid over the expected future membership of the active members, would be sufficient, taking into account the Actuarial Value of Assets, to provide for the benefits.

III Various Issues Pertaining to Actuarial Investigations of Retirement Benefit Schemes

5. Purpose of the Investigation:

- 5.1 The actuary should clearly bear in mind the purpose for which he has been asked to carry out an actuarial investigation. The actuary's choice of valuation method and assumptions will clearly be influenced by the purpose for which he is carrying out the investigation - for funding or for accounting.
- 5.2 Funding a retirement benefit is to ensure that by the time an employee becomes eligible for a benefit, adequate fund has been set aside to meet the costs of such benefits. Alternative methods of funding have been devised basically to ensure that the burden of financing past service liability, relating to current employees at the time of introduction of scheme benefits, is spread over a period. In selection of a funding method, therefore, an employer may be guided by his ability to find necessary cash over different time-spans and the rules of revenue authorities for tax relief. Determining the cost of a retirement benefit for accounting in the books of the employer is an entirely different issue. Wherever, a retirement benefit scheme exists, the benefits are directly or indirectly related to the years of service rendered by an employee. Under the accrual principle of accountancy, for each year of service put in by an employee some retirement benefit accrues to the employee (accrual being different from vesting) and the cost of such accrual needs to be accounted for in that year. What particular benefit accrues in a particular year will depend on the scheme rules i.e., under which contingencies what benefits will be paid.
- 5.3 Consequently, for arriving at the cost for accounting purposes an actuary will necessarily have to adopt the methodology as applicable under the Projected Unit Method. The various options available for determination of 'cost for funding', thus, are not available for determination of 'cost for accounting'. Hence, unless the Projected Unit Method is adopted for funding, the amount of 'contribution' made to a 'fund' in an accounting year

(being an actual cash - outflow) will differ from the 'cost' of the retirement benefits accruing in that year.

- 5.4 Even if the Projected Unit Method is used both for 'funding' and 'accounting', it is possible for the amount required for funding and amount of cost required for accounting to differ for two reasons. One, the actuarial assumptions for the two calculations may differ and two whereas 'costs' for accounting will be calculated annually the 'control period' in arriving at 'Contribution' for funding may be longer than one year. The actuarial assumptions underlying the two calculations may differ in case the actuary prefers to be more cautious in 'fund' contribution calculations.

6. Responsibilities of an actuary:

- 6.1 The Executive Committee wishes to draw the attention of the actuary to the provisions prevailing under the Income-Tax Act. The amount of contribution made to the retirement benefit funds, subject to certain limitations, as per the actuary's report is allowed by way of expenses in determining the taxable income. To this extent the actuary, as a professional, has a responsibility towards the Income-Tax authorities as well as to his client. It is, therefore, incumbent on the actuary to use method and assumptions which strike a fair balance between the interest of all the concerned parties.
- 6.2 Accounting Standard 15 (AS-15) issued by the Institute of Chartered Accountants of India lays down guidelines which the Chartered Accountants have to follow. In preparing his report, the actuary must keep in mind the requirements of AS-15 so as to be of assistance to the auditors in complying with their requirements.
- 6.3 In making the valuations the concept of an ongoing concern has to be kept in mind unless circumstances demand otherwise.

7. Choice of Actuarial Assumptions

- 7.1 The purpose for which the investigation is made has a bearing on the choice of assumptions. It is permissible to choose one set of assumptions for, say estimates leading to setting up of book reserves and disclosure in company accounts but another set of assumptions, for decision on contribution rates. Whereas for the purpose of funding the actuary may wish to be conservative in the choice of assumptions in the case of determining accrual of cost of for transfer values the assumptions should be realistic.
- 7.2 Special attention is to be given to those assumptions to which the Actuarial Liability and Contribution Rate are especially sensitive. The assumption chosen should be realistic and based on current experience. Whether it is a pension scheme or a gratuity scheme, or leave encashment scheme, the calculations of liability, contribution and cost estimates will be highly sensitive to assumptions relating to withdrawal rates, salary escalation and discounting rate. Relatively, mortality in service will be less important, though not mortality post-retirement in the case of pension schemes. Assumptions relating to salary escalation and discounting rate both involve an implicit assumption about rate of inflation. The past experience of the 'fund' relating to 'fund' interest earnings and salary escalation will also necessarily reflect to some extent the rate of inflation experienced in the past., Any attempt at assuming a future rate of inflation over a long period (as necessary for pensions and gratuity calculations) is a hazardous task and any such

assumption can therefore be no more than a hypothesis. The saving feature is that so long as the inflation assumption implied in salary escalation and implied undiscounting rate to be used are consistent, the liability and contribution calculations will be relatively less sensitive to changes in these two assumptions.

- 7.3 In the case of new schemes or where the question of choice of assumptions comes up for the first time, the actuary will have to use his experience of other schemes, currently accepted actuarial opinion and his judgement having regard to factors such as group size, type of employer's business, nature of employees' occupation and maintain a certain amount of consistency in the choice of assumptions in his work.
- 7.4 In deciding the rate of interest to be assumed, the actuary has to take into account any statutory prescribed pattern of investment if applicable to the fund, the nature, term and yields under such prescribed investment, the likely delays and time lags in obtaining income from investments and the need of reinvestment of funds to match future liabilities and the interest rates at which such reinvestments are likely. The actuary should keep in mind that he is looking at a long term rate and the present trend of liberalisation and globalisation of the Indian economy must lead towards lower real interest rates obtaining globally in the long term.
- 7.5 In the case of funds which are in existence, current experiences, possible changes including restructuring of investments to new money rates or otherwise have to be considered before deciding the rate of interest reflecting factors as enumerated above.
- 7.6 In the case of valuation for setting up book reserves and disclosure in accounts, the interest basis may be chosen having regard to the consideration in Para 7.4 above or based on the long term borrowing interest rates less the standard rate of tax on corporates. However, if circumstances warrant, a different rate of interest may be used with suitable justification being recorded.
- 7.7 In projecting the pay increases it is necessary to keep in mind two factors - one is inflation level leading to a general change in salary level. The other is career progression of the members in their organisation. The actuary may combine the two and arrive at suitable salary growth levels. Or, if the actuary so desires, he may adopt a suitable salary scale and provide separately for the inflation factor.
- 7.8 The LIC (1994-96) is the latest published mortality table available on Indian Assured Lives. This mortality table can be adopted by the actuary for making a suitable assumption in respect of employee's mortality in service or period of deferment. However, the actuary has to examine suitability of these rates and where necessary a basis with an adjustment to the table by a rating up/down or by a mathematical formula may be used. It is open to him to use any other published mortality table which he feels is appropriate.
- 7.9 Under retirement benefit arrangements, where on retirement the benefit amount is bought out by the company from a life or a pension office, an assumption in respect of mortality-in-retirement will not be required as simply the buy-out terms offered by the life or the pension office can be used for the purposes of quantifying the liabilities. However, in all other cases, for instance, when liabilities of an unfunded arrangement are being quantified or where the benefits on retirement are being directly disbursed by the company or the trust, an assumption in respect of mortality-in-retirement will be required.

In India, as yet, there are no published mortality tables in respect of mortality experience amongst pensioners and annuitants. Thus, in absence of this, the actuary will have to fall back on published mortality tables of other countries such as a(55) & PA(90) of UK and make appropriate adjustments to allow for the difference in mortality experience of that country and India. Any adjustments made should be recorded and justified.

- 7.10 It has be appreciated that the actual experience of mortality of the members of an employer-sponsored retirement benefit scheme may not replicate the experience of any published mortality table for a variety of socio-economic factors. It is therefore recommended that for sufficiently large schemes say of 20,000 members or more, the actuary should analyse the past mortality experience of the scheme and based on the results of such an analysis adopt a suitable assumption for the future. For smaller schemes, where due to small size, statistically credible estimates are not possible, the actuary can rely more on published tables with an appropriate rating, if desired.
- 7.11 Withdrawal rates, both at early duration's of service and near retirement date, have not only a significant impact on estimates of 'liability' and 'contributions' (more than of mortality in service) but are most difficult to estimate. The past may not be a guide to the future. Even if the past experience can be statistically analysed and produce some meaningful rates, the future experience of withdrawals will depend on general economic conditions as also the particular conditions affecting the given employer's business. Furthermore, withdrawal rates differ significantly from scheme to scheme and within a scheme from year to year. The only published information available in India is 'Withdrawal rates of employees covered under Insured group schemes'. NIA, December 1986. Group size, Public/Private Sector, Zone and Administrative Staff/Workers have been brought out in this investigation as major factors. The actuary has to examine these rates and any other information available to him and use his best possible judgement to cater to the long term nature of the actuarial estimates he is carrying out.

8. Transfer Values:

- 8.1 In adopting the basis and assumptions to arrive at transfer values, there is a need to make a distinction between individual transfer values and bulk transfer values. Bulk transfer values arise when a part of the business or the whole of it, along with the employees concerned, is transferred from one company to another. Individual transfer values arise from a premeditated act of an individual employee whereas bulk transfer values arise from an act of the employer, with or without the consent of the employees.
- 8.2 In the case of individual transfer value the actuary may provide the present value of the deferred benefits vested in the employee on a realistic set of assumptions. In the case of bulk transfers, the actuary should keep in mind the following when arriving at transfer values:
- 8.2.1 The employees, in respect of their past service, will had accrued entitlement to a pension/gratuity based on final pay and they would expect this benefit to be protected.
- 8.2.2 Where it is the practice of the employees/Trustees to provide discretionary benefits, the reasonable expectation of the transferred employees would be that such discretionary benefits are taken into account when calculating the transfer values. This expectation would be very high in cases where such discretionary benefits have been provided in the last valuation.

8.2.3 Attention needs to be paid to the fund position also as this can have an impact on transfer values. Where there is surplus/deficiency the actuary is advised to consult his client on the treatment of such surplus / deficiency especially if there is an understanding between the client and the transferee employer.

8.3. In case any monies are transferred-in on account of an employee from another fund or in case of an employee contribution scheme, the benefits payable to such an employee on this account should be given due consideration.

9. ***Valuation of Leave Encashment Benefit :***

9.1. Valuation of accumulated leave has its peculiarities. Whereas, the benefits payable under any type of retirement scheme would only arise on separation from the employer, in the case of accumulated leave, the benefit payable arises 'In-service' also in the shape of utilisation or encashment of leave. Also the decrement factor relating to in-service utilisation/encashment (viz. number of days leave) cannot be merged with the decrement factors for separation like mortality, withdrawal etc., as these are two different quantities. Hence two separate decrement tables would become necessary.

9.2. One other aspect to be noted is that a valuation of a retirement plan can be for various purposes like determining cost for funding or for accounting, or for improvement of benefits etc. In the case of accumulated leave it is only for the purpose of accounting. When an employee renders service for one year he is entitled to compensated absence. If he has not taken this absence in the year, there is a cost incurred by the employer which has not gone into his books of accounts and as such a liability (accrued expense) needs to be provided as at the Balance-Sheet date. What, therefore, needs to be measured is the expected cost of accumulating compensated absences as the additional amount that an employer expects to pay as a result of the unused entitlement that has accumulated at the Balance Sheet date.

9.3. One more aspect to be noted is that in a retirement plan, the actuarial liability in respect of an employee increases with each year of service. This is not so in the case of accumulated leave. The number of days of accumulated leave of an employee can reduce at the next valuation date, he having taken/ encashed leave during the year. Thus, it can happen that the total actuarial liability for accumulated leave of all employees as at a valuation date can be lower than at the previous valuation date, all other things being equal.

9.4. Accumulating compensated absences may be either vesting (in other words, employees are entitled to a cash payment for unused entitlement in service or on separation) or non-vesting (employees are not entitled to a cash payment). In accordance with normal accounting practice the accrued liability in both these cases should be provided.

The Institute of Chartered Accountants of India have so far not provided any accounting standards for the accumulated leave which is non-vesting. The only provision on accumulated leave appears in AS-15 which relates to encashment of leave on separation from the employer.

9.5. In a leave encashment scheme, there will be a provision for utilisation/encashment of leave while in service. In conducting an actuarial valuation, utilisation/encashment of

leave in service can be treated as an additional decrement factor (in addition to death withdrawal and retirement) in determining the actuarial liability. However, in view of the fact that actuarial valuation of accumulated leave is sought by Companies as required by AS-15 of the Institute of Chartered Accountants of India which refers to encashment of leave on separation from the employer, (viz. death, withdrawal or retirement), the Executive Committee is of the view that for an actuarial valuation for the purpose of AS-15 the factor for inservice utilisation/encashment need not be considered. However, it is open to an actuary to take this factor into account and arrive at the actuarial liability for inservice utilisation/encashment need not be considered. However, it is open to an actuary to take this factor into account and arrive at the actuarial liability for inservice utilisation/encashment as well as on separation. In such an event, the actuary's report must clarify that the actuarial liability is on both the above mentioned counts.

- 9.6. In determining the actuarial liability for separation the usual financial and demographic factors are to be taken into account. However, as stated earlier, accumulated leave can be utilised/encashed in service. This factor, if at all the actuary finds it necessary to provide, should be arrived at on the basis of 'Last-In-First-Out' (LIFO) principle. The leave utilised/encashed during the year will first be set off against the accruals for the year. Excess utilisation would only be from the accumulated leave. If any factor for leave utilisation/encashment inservice is used, the Report must clearly state the fact and how the factor has been arrived at.
- 9.7. A view has been expressed by some companies and accepted by their auditors, that since accumulated leave can be utilised/encashed during service, in valuing the liability at retirement (not at death or resignation) it is not necessary to take the entire accumulated leave standing to the credit of the employee but only that portion of the leave which he need not encash/utilise so as to ensure that with the fresh leave accruing to him in future, he does not exceed the maximum permissible accumulation on retirement. This is based on the principle of First-In-First-Out (FIFO). The Executive Committee is of the view that this is not an acceptable approach. However, if a client insists on having a valuation on this basis, the Report should very clearly bring out the fact that this is not within the scope of the Guidance Note.

10. **Other Miscellaneous Issues :**

- 10.1. Where a monetary or any other ceiling has been placed on the benefits payable, the actuary may, in consultation with his client, take into account the possibility of future upward revision of such ceilings in the light of past experience. In that event, the decision taken with the reasons thereof should be properly reported in the certificate.
- 10.2. Even though each retirement benefit scheme (pensions or gratuity) may be tailor-made to meet the needs of each group, by and large, an actuary may not find it difficult to provide for any out of the way rules relating to payment of benefits. A careful watch has, however, to be kept on the implications of any legislative changes, judicial pronouncements, practices and tax regulations etc. on the "Fund" liabilities and contribution rates. To illustrate, the Supreme Court Judgement providing for restoration of commuted pension, on completion of 15 years from the date of commutation, resulted in increases in liability as also of contribution rates, where applicable. Similarly, the practice of guaranteeing the commutation rates (which are based on a rate of discount lower than the valuation rate of interest) results in additional liability and increases in

vested pensions, by way of relief against inflation, will also need to be recognized and allowed for in calculation of 'contribution' rates & liability estimates.

- 10.3. Where on retirement the benefit amount is bought-out by the company from a life or pension office, the actuary should examine whether the current buy-out terms of the insurer are likely to remain stable over a period or not. If the actuary feels that there are factors which can affect the buy-out terms in the near future, he should make suitable adjustments.

IV Actuarial Reports on Retirement Benefit Schemes in India

11 Introduction :

- 11.1 An actuarial report must be prepared when an actuary conducts an actuarial investigation in respect of any retirement benefit scheme. The report must be in writing and should only be signed by the concerned actuary. This Section of the G.N. which is mandatory, relates to the contents of such a report.
- 11.2. The report may be required when the scheme such as a gratuity scheme, leave encashment or a pension scheme is set up or at intervals thereafter. It is immaterial whether the scheme is funded or not and if it funded, whether it is self-administered or through a life office or a pension office.
- 11.3. These guidelines relate primarily to defined benefit schemes where the ultimate costs are initially unknown. They would also be applicable in the case of valuation of accrued leave, which follow similar principles as defined benefit arrangements.
- 11.4. These guidelines have been prepared keeping in mind the practice prevalent in India.

12. The Report :

- 12.1 The items in the following list are normally to be regarded as essential components of any report. Other information may often be desirable and suitable explanations of some features may be very important, for example, effect on the funding ratios of an improvement in benefits with retroactive effect.

12.2. Basic Information :

- 12.2.1. An opening statement showing to whom the report is addressed, the purpose for which the investigation has been made, the date as at which the investigation has been made and the date of the report.
- 12.2.2. A statement of benefits which have been valued. If benefits valued are as per the Payment of Gratuity Act, 1972 there will not be any need to enumerate the benefits. A mere statement to this effect will be sufficient. The Report should disclose if there is a history of discretionary benefits. Reference should be made, if any allowance has been made for discretionary increase in benefits. If in the intervaluation period, the benefits have been varied, a specific mention thereof should also be made here.
- 12.2.3. A brief summary of the data on which the investigation is based like the number of employees, total wages/salaries, etc. The actuary should state that he is satisfied with the

accuracy and sufficiency of the data. In case however, the actuary has any reservation as to the reliability of the data, appropriate qualification should be made here.

- 12.2.4. A brief resume of the investigations carried out, if any, to arrive at the assumptions can be described here.

General :

- 12.2.5. A statement as to whether the valuation has been prepared in accordance with G.N., current at the date of signing of the valuation report.

There should be a statement indicating any departure from this section of the G.N. The actuary is expected to comply with this section of the G.N., unless the actuary is convinced that full compliance would be inappropriate, in which case a complete explanation and justification of all departures should be given.

- 12.3. The extent of reporting required for unfounded retirement schemes or funded retirement schemes, where investigations are carried out annually will be less than that required for investigations of funded schemes or where investigations are carried out less frequently. The Executive Committee acknowledges that some of the items may not be relevant for reporting of the former investigations than the latter type of investigations. The remaining part of this G.N. splits the reporting requirements according to whether scheme is funded and the frequency of the investigations carried out.

12.4. **Investigations Providing Only Actuarial Liability :**

This will include all unfounded retirement benefit scheme investigations, leave encashment valuations and retirement benefit scheme investigations which are carried out annually.

Valuation Assumptions and Methods :

- 12.4.1. A Statement of the various assumptions made in valuing the liabilities and reasons for changes, if any, from the previous investigation.
- 12.4.2. In most cases where an annual investigation is conducted, the actuarial liability is arrived at using the Projected Accrued Benefits Method, the contribution to the fund, if any, being made on the basis of the difference between the current actuarial liability and the fund balance after taking into account interest received/accrued and all payments made/accrued upto the valuation date.
- 12.4.3 A commentary on any material developments in the inter-investigation period which have led to a significant variation in the experience from the assumptions last made and their impact on the valuation.

12.5. **Funded Retirement Benefit Scheme Investigations :**

- 12.5.1. A statement of the rates of contribution payable during the interinvestigation period; and a commentary on any material developments during such period and on any significant variations in experience from the assumptions made at the previous investigations.

- 12.5.2. A brief mention of the assets held, if any, to meet the liabilities. In particular, the source from which the information of the assets is obtained and if it is obtained from unaudited accounts a statement clearly stating this should be included in the valuation report.

Funding Objectives :

- 12.5.3. An explanation of the funding objectives and of the method being employed to achieve those objectives. The implication in terms of stability of contribution rates and of future funding ratios should also be explained.

Valuation Assumptions and Methods :

- 12.5.4. A statement of the assumptions made in valuing both the liabilities and assets and of the method employed in deriving the contribution rate. Attention should be directed particularly to those assumptions to which the contribution rate is sensitive.
- 12.5.5. Comments should be made on the compatibility of the basis of valuing the assets with that of valuing the liabilities. Whereas normally the assets will be valued on a basis which is compatible with the basis of valuing the liabilities, in view of the fact that under an Income-Tax approved Trust Fund, investments can only be made in defined securities which are fixed income bearing, the assets may be valued at cost or on present yield to redemption basis. However, if the circumstances so warrant, the assets may be valued on a different basis and commented upon.

Contribution Rate :

- 12.5.6. The appropriate contribution rate should be recommended to achieve the funding objectives. If such objectives imply a changing contribution rate (as a percentage of the qualifying pay), an indication as to the extent and timing of such change should be given.
- 12.5.7. It is the practice of some organisations to contribute to the Fund the maximum amount of contribution allowed by the Revenue authorities whether that contribution rate is justified by the chosen funding method and the benefits payable or not. In such an event the Executive Committee is of the view that the actuary should not gloss over this fact by merely saying that the fund is solvent. He needs to draw the attention of the client in his report about the actuarial surplus and what in his view should be the future contribution rate.

Current On-going Funding Position:

- 12.5.8. A statement as to the on-going funding position including where relevant, a comparison between assets and liabilities, the latter with pensionable salaries projected where appropriate to normal retirement date, if this is not otherwise conveyed by comments on the funding objectives and the contribution rate. A statement also clearly setting out the On-going Funding Ratio on the chosen set of funding method and assumptions.

Discontinuance Funding Position:

- 12.5.9. A statement as to whether or not, in the actuary's opinion, the assets would have been sufficient at the valuation date to cover liabilities arising (including any dependants' contingent benefits) in respect of pensions in payment, preserved benefits for members

whose pensionable service has ceased and accrued benefits for members in pensionable service the last of which will normally be related to pensionable service to, and pensionable earnings at the date of valuation i.e. a measure of Discontinuance Funding Ratio. (This does not apply in case of a Gratuity Scheme).

The purpose of this statement is to give an indication of the accrued solvency position were the scheme to discontinue at the valuation date (with cessation of accrual and salary linking) but not necessarily to wind-up. The actuary should adopt an approach with that principle in mind.

According to the actuary's judgement and the nature of the scheme i.e. if it is a pension scheme, the statement may be based on:

- a) the normal valuation basis, or
- b) the estimated cost of purchasing deferred and/or immediate annuities from a Life Office or a Pensions Office.

The approach used must be disclosed and, if it be the case, it should be pointed out that the value of the liabilities does not represent the cost required to secure the liabilities of the scheme were the scheme to wind-up as at the date of the investigation.

12.5.10 If there is any shortfall in the coverage, an indication of the degree of shortfall should be given having regard to the priorities attaching to various categories of benefits on winding-up.