5 SIGNIFICANT EVENTS DURING THE YEAR

(AS PER SEC 139 (IND AS) 19

VALUATION PERIOD	FROM : 31-03-2023 TO : 31-03-2024
NAME OF EVENT	STATUS
PLAN PROVISIONS	THERE IS NO PLAN INTRODUCTION OR CHANGES IN PROVISIONS DURING THIS PERIOD
BUSINESS COMBINATION	THERE IS NO BUSINESS COMBINATION DURING THIS PERIOD
DIVESTURE	THERE IS NO DIVESTURE DURING THE PERIOD
ACQUISITIONS	THERE IS NO ACQUISITION DURING THE PERIOD
TRANSFER	THERE IS NO TRANSFER DURING THE PERIOD
CURTAILMENT	THERE IS NO PLAN CURTAILMENT DURING THE PERIOD
PLAN SETTLEMENT	THERE IS NO PLAN SETTLEMENT DURING THE PERIOD
PLAN COMBINATION	THERE IS NO PLAN COMBINATION DURING THE PERIOD
PLAN DIVISION	THERE IS NO PLAN DIVISION DURING THE PERIOD
SPECIAL TERMINATION	THERE IS NO SPECIAL TERMINATION DURING THE PERIOD
LIABILITY FUNDING(PARA 147(A),(IND AS) 19	A FUNDED LEAVE PLAN
FUNDING METHODOLOGY(PARA 147(A),(IND AS) 19	FUNDED THROUGH AN INSURANCE COMPANY
BENEFITS PAYMENTS	PAYMENTS THROUGH AN INSURANCE CO
SALARYINCREASE	THERE IS SIGNIFICANT INCREASE IN AVERAGE SALARY DURING THE PERIOD
PERCENTAGE INCREASE IN SALARY	THE AVERAGE SALARY INCREASED BY - 16.48% - DURING THE PERIOD
EMPLOYEE COUNT	THERE IS DECREASE IN EMPLOYEE COUNT DURING THE PERIOD
PERCENTAGE INCREASE IN EMPLOYEE COUNT	THE EMPLOYEE COUNT DECREASED BY - -0.76% - DURING THE PERIOD
LEAVE COUNT	THERE IS NO SIGNIFICANT INCREASE DURING THE PERIOD
PERCENTAGE INCREASE IN LEAVE COUNT	THE LEAVE COUNT INCREASED BY - 11.55% - DURING THE PERIOD

POST VALUATION DATE	WE HAVE NOT BEEN NOTIFIED BY THE COMPANY NOR ARE WE AWARE OF ANY EVENTS SUBSEQUENT TO THE VALUATION DATE WHICH IN OUR OPINION WOULD HAVE MATERIAL IMPACT ON THE RESULTS OF THE VALUATION.

6 CERTIFICATION

6.1 The assumptions and methodology used in compiling this Report are consistent with our understanding of (Ind AS) 19. Our calculations follow the company's accounting policy of immediate recognition of gains and losses in the Present Value of Defined Benefits Obligation or the Fair Value of the Plan Assets

The discount rate is based on the market yields of Government bonds as on the valuation date. The term corresponds to a value of years which is the expected term of defined benefit obligation. The other assumptions should be chosen to reflect a best estimation of the future long-term experience.

6.3 The results are particularly sensitive to some assumptions, such as the discount rate, level of salary inflation, level of assumed price inflation and mortality. A decrease in the discount rate assumed or an increase in salary inflation will lead to an increase in reported cost.

6.4 The total defined benefit obligation is inclusive of short term benefits. The amount provided for short term benefits is on an undiscounted basis and based on per day CTC/basic salary depending on the estimated leave availment/encashment during next one year.

6.5 A summary of the employee profile is given in **Appendix A.**

The key assumptions used in the valuations are set out in **Appendix B**

6.6 The distribution of assets categories is set out in **Appendix C**

6.7 The approach used for setting the assumptions is given in **Appendix D & similar to use in**

6.8 **prior year.**

6.9 The methodology used in the calculations is set out in **Appendix E**

6.1 The methodology used in the calculations is set out in Appendix F

6.11 The Items pertaining to Revised Schedule III of Companies Act, 2013 is in Table 3.A

6.12 Based on membership data and plan information provided to me as on 31-03-2024 I have made full actuarial valuations as at the end of this date

6.13 The full results of my calculations are set out in Tables 1 to 9

6.14 I would be pleased to discuss this Report with you

Yours faithfully,

Srinivasan Nagasubramanian,

Fellow of the Institute of Actuaries of India.

Mem No: 00144 (1985).

30/May/2024

7 AMOUNT TO BE RECOGNISED IN PROFIT / LOSS ACCOUNT NET PERIODIC BENEFIT COST RECOGNISED

PARA 141, A, B ,C OF (IND AS) 19

TABLE 1

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19 PURPOSES

EMPLOYEES EARNED LEAVE SCHEME

Disclosure of employer expense for the period ending 31-03-2024

Expense Recognised In Income Statement

The following table summarises the components of net benefit expenses recognised in the Profit / Loss Account

A	Components of Employer expense		
	Service Cost	**31-Mar-23**	**31-Mar-24**
1	Current service Cost	5,61,24,772	7,61,93,611
2	Past service cost	0	0
3	Curtailment Cost/(Credit)	0	0
4	Settlement Cost/(Credit)	0	0
5	Total Service Cost	5,61,24,772	7,61,93,611
	Net Interest Cost		
6	Interest Expense on DBO	3,90,52,759	4,30,90,862
7	Expected Return on Asset	-5,65,25,354	-3,66,31,990
8	Interest (income)on reimbursement rights	0	0
9	Interest expense on effect of (asset ceiling)	0	0
10	Total Net Interest	-1,74,72,595	64,58,872
11	Immediate Recognition of (Gain)/Losses-Other Long Term Benefits	37,96,04,411	12,59,90,608
12	Cost of Termination Benefits	0	0
13	Administrative Expenses and Taxes	0	0
14	Defined Benefits cost included in P&L	41,82,56,588	20,86,43,090

Assumption on 31-03-2024

Discount rate as per market yields on Government bonds as at valuation date 7.22%

8 REMEASUREMENT EFFECTS RECOGNIZED IN OTHER COMPREHENSIVE INCOME (OCI)

PARA 120 (C) AND PARA 141 (C) OF (IND AS) 19

TABLE 2

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19 PURPOSES

EMPLOYEES EARNED LEAVE SCHEME

Net Asset/(Liability) Recognised in OCI on– 31-03-2024

The following Table gives the Funded Status and the amount recognised in OCI

A	Remeasurement effects recognized in other comprehensive income (oci) (Para 57(d))		
		31-Mar-23	**31-Mar-24**
1	Actuarial (Gain)/Losses due to Demographic Assumption changes in DBO	0	0
2	Actuarial (Gain)/Losses due to Financial Assumption changes in DBO	8,49,040	3,38,08,777
3	Actuarial (Gain)/Losses due to Experience on DBO	1,15,49,313	11,11,21,385
4	Return on Plan Assets (Greater)/Less than Discount rate	36,72,06,059	-1,89,39,554
5	Return on reimbursement rights (excluding interest income)	0	0
6	Changes in asset ceiling /onerous liability (excluding interest Income)	0	0
7	Total actuarial (Gain)/loss included in OCI	0	0
	Defined Benefit Cost (para 120)		
8	Cost Recognised in P&L	41,82,56,588	20,86,43,090
9	Remeasurement Effect Recognised in OCI	0	0
10	Total Defined Benefit Cost	41,82,56,588	20,86,43,090
Discount rate as per market yields on Government bonds as at valuation date 7.22%			

9 AMOUNTS TO BE RECOGNISED IN BALANCE SHEET DETAILS OF PROVISION FOR LEAVE

Para 57 a,b and Para 63 and 64

TABLE 3

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

Actuarial measurements for (Ind AS) 19 purposes

EMPLOYEES EARNED LEAVE SCHEME

Net Asset/(Liability) Recognised in Balance Sheet on – 31-03-2024

The following Table gives the Funded Status and the amount recognised in the Balance Sheet for the Plan

A	Net Asset/(Liability) Recognised in Balance Sheet		
		31-Mar-23	**31-Mar-24**
1	Present value of Funded Obligation	61,83,75,684	83,94,91,634
2	Fair Value of Plan Assets	47,96,24,695	59,06,83,421
3	Present value of Unfunded obligation	0	0
4	Funded status [Surplus/(Deficit)]	-13,87,50,990	-24,88,08,213
5	Unrecognised Past Service Costs	0	0
6	Amount not Recognised as an Asset (limit in Para 64(b))	0	0
7	Net Liability	-13,87,50,990	-24,88,08,213
8	Recognised in balance sheet	-13,87,50,990	-24,88,08,213
9	**Present value of Encashment Obligation**	**54,32,48,691**	**74,19,99,140**
10	**Present value of Availment Obligation**	**7,51,26,993**	**9,74,92,494**
Discount rate as per market yields on Government bonds as at valuation date 7.22%			

Annexure - I

10 DETAILS OF CURRENT AND NON CURRENTPROVISION FOR LEAVE

As PER Schedule 3 of Companies Act 2013

TABLE 3 A

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

Actuarial measurements for (Ind AS) 19

EMPLOYEES EARNED LEAVE SCHEME

Current & Non-Current Bifurcation 31-03-2024

The following Table gives Current and Noncurrent for the PVO and the Funded Status

A	Bifurcation of Current & Non-current			
			31-Mar-23	**31-Mar-24**
1	PVO (Unfunded Scheme)	Current		3,13,83,513
		Non-Current		80,81,08,121
2	Funded Scheme[Surplus/(Deficit)]	Current	13,87,50,990	24,88,08,213
For funded schemes as per ICAI circular page no 18 (See commentary)		Non-Current	0	0

11 CHANGES IN PRESENT VALUE OF DEFINED BENEFIT OBLIGATION AND RECONCILIATION THEREOF-IND AS 19 PARA 140

Ind AS 19, Para 140

TABLE 4

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

Actuarial measurements for (Ind AS) 19 purposes

EMPLOYEES EARNED LEAVE SCHEME

A			
Change in DBO over the period ending on (para 140(a)(ii) and 141)		31-Mar-23	31-Mar-24
1	Present Value of Defined Benefits Obligation At Beginning (Opening)	52,78,37,408	61,83,75,684
2	Interest Cost	3,90,52,759	4,30,90,862
3	Current Service Cost	5,61,24,772	7,61,93,611
4	Plan Amendments	0	0
5	Prior Service Costs	0	0
6	Benefits Pay-outs from plan	-1,70,37,607	-4,30,98,685
7	Curtailments	0	0
8	Settlements	0	0
9	Actuarial (Gain)/Loss	1,23,98,352	14,49,30,162
10	Benefit payments from employer	0	0
11	Acquisitions/Divestures/Transfers	0	0
12	Present Value Of Defined Benefits Obligation At the end (Closing)	61,83,75,684	83,94,91,634
Reconciliation of Opening & Closing of Plan Assets(Ind AS 19 Para 140(a) (i)			
1	Fair Value of Plan Assets at the beginning (Opening)	71,30,28,479	47,96,24,695
2	Difference in opening Value	0	0
3	Expected Interest Income on assets	5,65,25,354	3,66,31,990
4	Employer Contribution (Para 141 f)	9,43,14,527	9,85,85,866
5	Employer direct benefit payments	-0	-0
6	Plan Participant's contributions (Para 141 f)	0	0
7	Settlements By Fund Manager (para 141 g)	0	0
8	Benefits Pay-outs from employer (Para 141 g)	0	0
9	Benefits Pay-outs from plan (Para 141 g)	-1,70,37,607	-4,30,98,685
10	Transfer In/Acquisitions	0	0
11	Transfer Out/Divestures	0	0
12	Admin expenses /Taxes paid from plan assets	0	0
13	Effect of Change in Exchange rates (Para 141 e)	0	0
14	Assets Distributed on settlements	0	0
15	Insurance premiums for risk benefits	0	0
16	Actuarial gain/(Loss)	-36,72,06,059	1,89,39,554
17	Fair Value of assets at the End	47,96,24,695	59,06,83,421
18	Actual Return on Plan Assets	-31,06,80,705	5,55,71,544

12 Amounts Recognized in Other Comprehensive Income

TABLE 5

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES EARNED LEAVE SCHEME

Amounts Recognized in Other Comprehensive Income for the period ending on 31-03-2024

The following Table gives the amounts Recognized in Other Comprehensive Income

A	Amounts Recognized in Other Comprehensive Income		
		31-Mar-23	31-Mar-24
1	Opening cumulative other comprehensive Income	0	0
2	Actuarial Loss/(Gain) On DBO	1,23,98,352	14,49,30,162
3	Actuarial Loss/(Gain) On Assets	36,72,06,059	-1,89,39,554
4	Prior Service Cost (Credit)	0	0
5	Amortization Of Prior Service Cost	0	0
6	Amortization Actuarial Loss/(Gain)	37,96,04,411	12,59,90,608
7	Net increasing in OCI	0	0
8	Total Recognised In Other Comprehensive Income	0	0

13 RECONCILIATION OF NET BALANCESHEET ITEMS

TABLE 6

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES EARNED LEAVE SCHEME

Reconciliation of Net Asset/(Liability) Recognised in Balance Sheet for the period ending on 31-03-2024

The following Table gives the Reconciliation of Net Balance Sheet Liability

A	Reconsilation of Net Balance Sheet Liability		
		31-Mar-23	31-Mar-24
1	Net Balance sheet Asset/(Liability) Recognised at beginning	18,51,91,071	-13,87,50,989
2	Amount Recognised In Accumulated Other Comprehensive Income/Loss at the beginning of the period	0	0
3	(Accrued)/Prepaid benefit cost (Before adjustment) at beginning the of period	18,51,91,071	-13,87,50,989
4	Net Periodic Benefit (Cost)/Income for the period	-41,82,56,588	-20,86,43,090
5	Employer direct benefit payments	-0	-0
6	Employer Contribution	9,43,14,527	9,85,85,866
7	Currency Impact	0	0
8	Acquisitions/Divestures	0	-0
9	(Accrued)/Prepaid benefit cost (Before Adj) at end of period	-13,87,50,990	-24,88,08,213
10	Amount Recognised In Accumulated Other Comprehensive Income/Loss at the end of the period	0	-0
11	Net Balance Sheet Asset/Liab Recognised at the end of the period	-13,87,50,990	-24,88,08,213

14

INFORMATION REQUIRED UNDER IND AS 19

Para 147 of (Ind AS) 19			
TABLE 7			
BIHAR STATE POWER TRANSMISSION COMPANY LIMITED			
Actuarial Measurements as per (Ind AS) 19			
EMPLOYEES EARNED LEAVE SCHEME			
Actuarial measurements 31-03-2024			
147(a)	"The company has started funding the liability through the medium of an insurance company."&" Regular assessment is made by the insurance co of the increase in liability under certain assumptions"&" and contributions are being made to maintain the fund."&" subject to credit risk of the insurance co & asset liability mismatch risk of the investments " the Company will be able to meet the past service liability on the valuation date that fall due during the future		
147-b	**The Company Expects to Contribute to Leave in the next period**		**47,84,71,457**
147 c	**Weighted average duration of the D B O**	**15.69**	**15.82**
	Information on the maturity profile of the liabilities given below	**31-Mar-23**	**31-Mar-24**
1	Projected Benefit Obligation	61,83,75,684	83,94,91,634
		31-Mar-2024	
	FIVE YEAR PAYOUTS	**Discounted values / Present value**	**undiscounted values / Actual value**
1	YEAR (I)	3,13,83,513	3,50,98,253
2	YEAR (II)	2,63,42,568	3,15,67,448
3	YEAR (III)	2,53,36,814	3,24,06,259
4	YEAR (IV)	2,71,83,167	3,75,66,240
5	YEAR (V)	2,59,14,678	3,84,94,826
6	Above 5 Yrs.	70,33,30,894	2,94,40,40,722

15 SENSITIVITY ANALYSIS

INFORMATION REQUIRED UNDERPARA 145 OF (IND AS) 19

TABLE 8

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES EARNED LEAVE SCHEME

SENSITIVITY ANALYSIS FOR THE PERIOD ENDING 31-03-2024

145 A	How the DBO would have been affected by 100 basis points changes in the actuarial assumptions namely discount rates,salary growth, Attrition & Mortality is shown below

A	Net Asset/(Liability)Recognised in Balance sheet -			31-Mar-24
		% increase in DBO	LIABILITY	INCREASE IN DBO
1	DISCOUNT RATE +100 basis points	-12.48%	73,47,15,161	-10,47,76,473
2	DISCOUNT RATE -100 basis points	15.50%	96,95,88,478	13,00,96,844
3	SALARY GROWTH +100 basis points	15.12%	96,64,13,825	12,69,22,191
4	SALARY GROWTH -100 basis points	-12.38%	73,55,59,250	-10,39,32,384
5	ATTRITION RATE +100 basis points	1.32%	85,05,38,828	1,10,47,194
6	ATTRITION RATE-100 basis points	-1.49%	82,69,81,895	-1,25,09,739
7	MORTALITY RATE 10% UP	0.04%	83,97,93,955	3,02,321

145 B	We have used P.U.C method.If an employee's service in later years will lead to a materially higher level of benefit than in earlier years, these benefits are attributed on a straight-line basis. The limitations are that in assessing the change other parameters are kept constant. As some of the assumptions may be correlated, it is unlikely that changes in assumptions will occur in isolation of one another.
145 C	There is no change from the previous period in the methods and assumptions used in the preparation of above analysis, except that the base rates have changed

16

APPENDIX A

SUMMARY OF EMPLOYEE PROFILE

TABLE A

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES EARNED LEAVE SCHEME

ACTIVE MEMBERS

A	AS AT			
		31-Mar-2023	31-Mar-2024	INCREASE
1	Number of Employees	2,240	2,223	-0.76%
2	Total Leave Count Valued	3,25,928	3,63,571	11.55%
3	Total Leave Count Given	3,25,928	3,63,571	11.55%
4	Total CTC	29,90,81,136	34,57,25,350	15.60%
5	Total Monthly Basic Salary	14,95,40,568	17,28,62,675	15.60%
6	Average Monthly Basic Salary	66,759	77,761	16.48%
7	Average CTC	1,33,518	1,55,522	16.48%
8	Average Age	36.84	37.61	0.77
9	Average past service	11.03	11.71	0.68
10	Average future service	23.16	22.39	-0.77
11	Term of Liability	15.69	15.82	0.13
12	Discontinuance Leave Value	75,12,69,932	97,49,24,943	29.77%

17

Appendix B

Key Assumptions

One of the principal assumptions is the discount rate, which should be based upon the market yields available on Government bonds at the accounting date With a term that matches that of the liabilities. The financial and demographic assumptions employed for the calculations as at the end of previous period and current period are as follows.

A	Assumption		
Para 76 & 144 of Ind AS 19		**31-Mar-2023**	**31-Mar-2024**
1	Discount rate	7.52%	7.22%
2	Expected return on assets	7.52%	7.22%
3	Future Basic Salary Increase	3.00%	3.00%
4	Future DA Increase	As per Government rule	As per Government rule
5	Attrition Rate	2.00%	2.00%
B	**Leave Accounting & Consumption Technique**	**LIFO**	
1	Proportion of Leave Availment	5.00%	
2	Proportion of encashment on separation	95.00%	
Mortality - Indian Assured Lives Mortality(2012-14) (Ultimate)			

A SAMPLE PICK FROM THIS TABLE AS BELOW

Age	Mortality
20	0.000924
30	0.000977
35	0.001202

Disability: Provided under demographic assumptions

Notes

1 All the assumptions have been set following discussions with the company in this regard

2 We understand that the assumption of future salary increases (which has been promotion productivity gains and other relevant factors, such as supply and demand in the employment market.

Contd…

18

APPENDIX C

MAJOR CATEGORIES OF PLAN ASSET AS A PERCENTAGE OF THE FAIR VALUE

PARA 142, (IND AS) 19

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

EMPLOYEES EARNED LEAVE SCHEME

ASSETS DISTRIBUTION

A	AS AT		
	PERCENTAGES	**31-Mar-2023**	**31-Mar-2024**
1	Gov. Securities (Central & State)	0.00%	0.00%
2	Highquality Corporate Bonds	0.00%	0.00%
3	Equity shares of Listed Cos	0.00%	0.00%
4	Property	0.00%	0.00%
5	Special deposits	0.00%	0.00%
6	Others (PSU)	0.00%	0.00%
7	Assets Under Insurance Schemes	0.00%	0.00%
8	Total	0.00%	0.00%

19

Appendix D

Actuarial Assumptions:

I have used actuarial assumptions selected by the Company. Any Changes in actuarial assumptions, methods or plan provisions since the prior valuations are described in this report. The assumptions used in compiling this report are consistent with the requirements of IND AS (19). The company was advised on assumptions as per the requirements under IND AS 19 APS 27. Based on the information provided to us, we believe that the actuarial assumptions are reasonable for the purposes described in the report..

Demographic Assumptions:

The following demographic assumptions were used in valuing the liabilities and benefits under the plan.

Mortality:	Indian Assured Lives Mortality (2012-14) Ultimate
Disability:	5% of mortality rate rates
Withdrawal:	2.00%
Retirement age:	60

Table of Sample Rates

Mortality			Disability	
Male	Female	Age	Male	Female
0.0924%	0.0924%	20	0.0046%	0.0046%
0.0931%	0.0931%	25	0.0047%	0.0047%
0.0977%	0.0977%	30	0.0049%	0.0049%
0.1202%	0.1202%	35	0.0060%	0.0060%
0.1680%	0.1680%	40	0.0084%	0.0084%
0.2579%	0.2579%	45	0.0129%	0.0129%
0.4436%	0.4436%	50	0.0222%	0.0222%
0.7513%	0.7513%	55	0.0376%	0.0376%
1.1162%	1.1162%	60	0.0558%	0.0558%

Sample Rates Continued...

Mortality			Disability	
Male	Female	Age	Male	Female
1.5932%	1.5932%	65	0.0797%	0.0797%
2.4058%	2.4058%	70	0.1203%	0.1203%
3.8221%	3.8221%	75	0.1911%	0.1911%
6.1985%	6.1985%	80	0.3099%	0.3099%
10.0979%	10.0979%	85	0.5049%	0.5049%
16.3507%	16.3507%	90	0.8175%	0.8175%
25.9706%	25.9706%	95	1.2985%	1.2985%
39.7733%	39.7733%	100	1.9887%	1.9887%
Withdrawal				
Male	Female	Age	**Retirement**	
2.00%	2%	20	100%	100%
2.00%	2%	25	100%	100%
2.00%	2%	30	100%	100%
2.00%	2%	35	100%	100%
2.00%	2%	40	100%	100%
2.00%	2%	45	100%	100%
2.00%	2%	50	100%	100%
2.00%	2%	55	100%	100%
2.00%	0%	60	100%	100%
0.00%	0%	65	0%	0%
0.00%	0%	70	0%	0%
0.00%	0%	75	0%	0%
0.00%	0%	80	0%	0%
0.00%	0%	85	0%	0%
0.00%	0%	90	0%	0%
0.00%	0%	95	0%	0%
0.00%	0%	100	0%	0%

Unit wise Leave Liability As On 31-Mar-2024

S.NO	UNITS	LIABILITY
1	BSEBGPF-COMPANY	15,86,64,902
2	BSEBCPS-COMPANY	19,72,95,829
3	COMPANY EMPLOYEE	48,35,30,903
	TOTAL	83,94,91,634

Expected Expense For The Next Annual Reporting Period

Service Cost	8,38,12,972
Net Interest Cost	1,79,63,953
Expected Expense for the Next annual reporting Period	10,17,76,925

20 Appendix E: The Methodology

Benefits obligations are estimated using the projected Unit Credit method. Under this method each participant's benefits under the plan are attributed to years of service, taking into consideration future salary increase and the plan's benefit allocation formula.

If an employee's service in later years will lead to a materially higher level of benefit than in earlier years, these benefits are attributed on a straight-line basis. A description of the calculation follows:

- An individual's estimated attributed benefits for valuation purposes related to a particular separation date (e.g. expected date of retirement, leaving service or death) is the benefit described under the plan based on credited service as at the measurement date, but determined using the projected salary that would be used in the calculation estimate of the benefit on the expected separation date.

- The benefit attributed to an individual's service during a plan year is the excess of the attributed benefit for valuation purposes at the end of the plan year over the attributed benefit for valuation purposes at the beginning of the plan year. Both attributed benefits are estimated from the same projections to the various anticipated separation dates.

- An individual's estimated benefit obligation is the present value of the attributed benefit for valuation purposes at the beginning of the year, and the service cost is the present value of the benefit attributed to the year of service in the plan yea. If multiple decrements are used, the benefit obligation and the service cost for an individual are the sum of the component benefit obligations and service costs associated with the various anticipated separation dates. Such benefit obligations and service costs reflect the estimated attributed benefits and the probability of the individual separating on those dates.

In all cases, the benefit obligation is the total present value of the individual's attributed benefits for valuation purposes at the measurement date, and the service cost is the total present value of the individual's benefits attributable to service during the year. If multiple decrements are used, the present values take into account the probability of the individual leaving employment at the various anticipated separation dates.

21 APPENDIX F:COMMENTARY

1.Description of plan Characteristics and associated risks:

(Sec 139; Ind AS19)

The leave scheme is a final salary defined benefit plan, that provides for a lumpsum payment at the time of seperation; based on scheme rules the benefits are calculated on the basis of last drawn salary and the leave count at the time of seperation and paid as lumpsum.

The design entiles the following risks that affect the liabilities and cash flows,

1. Interest rates risk :

The defined benefit obligation calculated uses a discount rate based on government bonds. If bond yields fall, the defined benefit obligation will tend to increase.

2. Salary inflation risk:

Higher than expected increases in salary will increase the defined benefit obligation.

3. Demographic risks:

This is the risk of volatility of results due to unexpected nature of decrements that include mortality attrition, disability and retirement. The effects of this decrement on the DBO depend upon the combination salary increase, discount rate, and vesting criteria and therefore not very straight forward. It is important not to overstate withdrawal rate because the cost of retirement benefit of a short caring employees will be less compared to long service employees.

2.Description of funding arrangements and policies

Regulatory frame work:

While the payment of leave encashment is not statutory and there are no statutory minimum funding requirement for leave plans in India. However the companies can start funding for the leave.By this security of leave encashment benefits to the employees is ensured. No Trust is created for funding and companies can directly fund with insurance companies.

3.On Assumptions:

To prepare this report, actuarial assumptions as agreed by the Company, are used to select a single scenario from the range of possibilities. The results of that single scenario are included in this report. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material. In addition, different assumptions or scenarios may also be within the reasonable range and results based on those assumptions would be different. Actuarial assumptions may also be changed from one valuation to the next because of mandated requirements, plan experience, changes in expectations about the future and other factors.

1 The effects of Morbidity and Withdrawals(Attrition) have been factored by constructing a multiple decrement table on assumption of Mortality Table

4.Current& Non –Current Liabilities:

(Not specified under Ind AS 19; sec 133)

Regarding funded post-employment benefit obligations, amount due for payment to the fund created for this purpose within twelve months is treated as “current” liability. This is as per Institute of Chartered Accountants circular date December 2011.Guidance Note on the revised schedule 3 of the companies Act, 2013. Page 18, Sec 7.3.C reproduced below.

“Regarding funded post-employment benefit obligations, amount due for payment to the fund created for this purpose within twelve months is treated as “current” liability. Regarding the unfunded post-employment benefit obligations, a company will have settlement obligation at the balance sheet date or within twelve months for employees such as those who have already resigned or are expected to resign (which is factored for actuarial valuation) or are due for retirement within the next twelve months from the balance sheet date. Thus, the amount of obligation attributable to these employees is a “current” liability. The remaining amount attributable to other employees, who are likely to continue in the services for more than a year, is classified as “non-current” liability. Normally the actuary should determine the amount of current & non - current liability. Normally the actuary should determine the amount of current & non- current liability for unfunded post-employment benefit obligation based on the definition of current and Non-current assets and liabilities in the Revised schedule 3.

This is shown in our table 3A under Funded status, row No2. Regarding the unfunded postemployment benefit obligations, a company will have settlement obligation at the Balance Sheet date or within twelve months for employees such as those who have already resigned or are expected to resign (which is factored for actuarial valuation) or are due for retirement within the next twelve months from the Balance Sheet date. Thus, the amount of obligation attributable to these employees is a current Liability. This is shown under Line 1 of Table 3A.

5.DISCONTINUANCELEAVE LIABILITY

This refers to the payment of leave Liability on the valuation Date in case the company discontinues its commercial operations. It is the sum total of leave benefits payable to each and every employee.

6. TERM OF FUTURE LIABILITY

It is a weighted average term , the liabilities falling due in each year being the weights..

Duration (D) = $\sum t v^t CF_t / P$, where

P = $\sum v^t CF_t$

The discount rate is based on the term of the future liability. Term of the future liability is equal to term used in the bond rate table, for determining the discount rate.

7.DETERMINATION OF CONTRIBUTION RATES :

This can be done by the companies by spreading the balance Actuarial liability as on the valuation Date (i.e. Total Benefit Obligation taking into account the total service of the employees from date of joining to retirement less the current asset for the Plan) over the balance expected service of the employees as a group.

The annual contribution rate to meet future service liability is calculated using the Expression below:

(1) Actuarial Value of Total Service Liability Less Assets Value: TBO-A

(2) Actuarial Value of One Percent of future salaries over the balance Expected service time.1%C

(3) Uniform Future Annual Contribution Rate (%) = (1)/(2)= (TBO-A)/1%C

8.Understanding Actuarial Gains and Losses:

Possible reasons for Actuarial Gains or Losses on Plan Liabilities

1. If the actual attrition, retirement or mortality experience turns out to be higher or lower than expected based on the assumptions made at the start of the accounting period, it would lead to an Actuarial Gain or Loss on Plan Liabilities.
2. If the salary increases are higher or lower than expected based on the assumption made at the start of the accounting period, it would lead to an Actuarial Gain or Loss on Plan Liabilities.
3. If the actuarial assumptions of salary increase, attrition rate and discount rate change from one valuation year to another, it may lead to Actuarial Gain or Loss on Plan Liabilities.
4. Any significant changes in the demographic profile may also lead to Actuarial Gain or Loss on Plan Liabilities such as a large growth of the employee count from new joiners.
5. If the actual leave availment from the current year entitlement is different than the Availment Pattern assumed at the start of the accounting period, it may leave to Actuarial Gain or Loss on Plan Liabilities.

Possible reasons for experience Gains or Losses on Plan Assets:

1. Return on plan assets greater /(lesser) than discount rate. For example, if the discount rate was 8% and the fund actually earned 7%, it would result in an actuarial loss on assets.

22 APPENDIX G GLOSSARY

Actuarial Accrued Liability: The portion of the present value of prospective benefits allocated to service before the valuation date in accordance with the actuarial cost method.
***Actuarial Cost Method*:** Sometimes called “funding method,” a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension/Leave benefits plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortisation of the unfunded actuarial accrued liability.
***Actuarial Gain or Loss*:** The actuarial loss is the excess of the plan’s unfunded actuarial accrued liability on the valuation date over the unfunded actuarial accrued liability that would have resulted had all of the actuarial assumptions been realised. If the actuarial loss is less than zero, it is called an actuarial gain. From one plan year to next, if the experience of the plan differs from that anticipated using the actuarial assumptions, an actuarial gain or loss occurs. For example, an actuarial gain would occur if the plan assets earned 12% for the year while the assumed rate of return used in the valuation was 8%. Other causes of actuarial gains or losses would include changes in actuarial assumptions and / or demographic changes in the population profile.
***Actuarial Present Value*:** The current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future, The actuarial present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
***Adjustment for limit on net asset*:** A reduction of the net asset that may be necessary in situations where the company is unable to recover a surplus of the plan either through reduced contributions in the future or through refunds from the plan.
Balance Sheet Asset/(Liability): The sponsor's balance sheet asset/(liability) entry, the Net recognized amount, is the sum of the cumulative excess of contributions to the plan over net Annual Expense and other plan-related charges to income due either to business combination or accelerated recognition. The difference between this account and the Funded Status is the un-recognized net loss/ (gain) unvested prior service costs [and net transition obligation.
Current Service Cost:(component of expense):The actuarial present value of benefits attributed by the leave benefits/pension benefit formula to services rendered by employees during that period based on assumptions as to future compensation levels. The interest rate used in determining the present value is the discount rate.
***Curtailment*:** An event that significantly reduces the expected years of future service of present employees or eliminates for a significant number of employees the accrual of defined benefits for some or all of their future services
***Deficit or surplus*:** The excess of the present value of the obligation over plan assets.

Discount Rate: Also referred to as the “settlement rate,” the discount rate represents the employer’s estimate (as of the valuation date) of the interest rate at which pension benefits could be effectively settled. Assumed discount rates are used in the measurement of the present value of the obligation.
Expected Return on Assets: The expected return on plan assets over the accounting
Period, based on an assumed rate of return
Expected Long-Term Rate of Return on Plan Assets: An assumption as to the rate of return on plan assets reflecting the average rate of earnings expected on the funds invested or to be invested to provide for the benefits included in the projected benefit obligation. This assumption is used to determine the expected return on assets for purposes of IND AS (19) pension expense.
***Expense recognized in balance sheet*:** The amount recognised in an employer’s financial statements as the cost of a pension plan for a period, pursuant to IND AS (19). Components of expense are current service cost, interest cost, and expected return on plan assets along with settlement and curtailment charges (if any).
Fair value of plan assets: The assets out of which the obligations have to be settled, measured at their market value.
Funded Status: This is the excess/(shortfall) of the fair value of plan assets over the Plan Liability.
Interest Cost(component of net periodic Leave benefits/Pension cost): The increase in the present value of obligation due to passage of time or The increase in the Plan liability over the accounting period due to interest (the time value of money)
Net Periodic Benefit Cost: This is the profit and loss charge for the accounting period, *under IND AS (19)* and comprises the sum of the service and net interest costs, plus amortized actuarial gain /Loss.

Other Comprehensive Income:
Other comprehensive income comprises items of income and expenses (including reclassification adjustments) that are not recognized in profit or loss as required or permitted by other IND AS 19.
Past Service Cost: Plan amendments often include provisions that grant increased benefits based on services rendered in prior periods. These provisions give rise to past service costs.
Plan Liability: This quantity is the discounted present value of all benefits attributed by the plan's benefit formula to service rendered prior to the measurement date. It is measured using an assumption as to future pay levels.
Present Value: Sometimes called "actuarial present value," the current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
Present value of the Obligation: The actuarial present value as of a date of all benefits attributed by the pension benefit formula to employee service rendered before that date. The Present value of obligation is defined in AS 15 and is measured based on the discount rate and other assumptions used for accounting disclosure purposes. The present value of the obligation is measured using assumptions as to future compensation levels and increases in maximum benefit limitations (if applicable). The interest rate used in determining the present value is the discount rate.
Re Measurements of the net defined benefit liability (asset) comprise:
(a) Actuarial gains and losses;
(b) The return on plan assets, excluding amounts included in net interest on the net defined benefit liability (asset);and
(c) Any change in the effect of the asset ceiling, excluding amounts included in net interest on the net defined benefit liability (asset).
Service Cost: It has the following components.
A) This is the discounted present value of benefits attributed by the plan's benefit formula to services rendered by employees during the accounting period. It is measured using an assumption as to future pay levels.
b) Past service cost: which is the change in the present value of the defined benefit obligation for employee service in prior periods, resulting from a plan amendment (the introduction or withdrawal of, or changes to, a defined benefit plan) or a curtailment (a significant reduction by the entity in the number of employees covered by a plan); and
Settlement: A transaction that is irrevocable relieves the employer (or the plan) of primary responsibility for a pension benefit obligation and eliminates significant risks related to the obligation and the assets used to effect the settlement. The purchase of non-participating annuities or the payment of significant lump-sum payments to plan participants might constitute a settlement.
Termination Benefits: Benefits provided to employees in connection with their termination of employment at a specific time or under certain prescribed circumstances
Unrecognized Net Gain or Loss: The cumulative net gain or loss that has not been recognised as a part of net periodic pension cost
Unrecognized Past Service Cost: That portion of past service cost that has not yet been recognised as part of expense is unrecognised past service cost.

ENDS.

Bihar State Power Transmission Company Limited

4th Floor , Vidyut Bhawan, Bailey Road,
Patna - 800 021.

EMPLOYEES GRATUITY SCHEME MEASUREMENT REPORT

Disclosure as per (Ind AS) 19 - Defined Benefit Plans

FOR THE PERIOD ENDING
March 31, 2024

(A.P.S. 8.6.2)

SRINIVASAN NAGASUBRAMANIAN B.Sc., A.F.I.I., F.I.A.I., Dip. Manag.
Mem.No: 00144 (1985)

MAY 30, 2024

Contd……

INDEX

Index Numbers are provided at the top left hand corner of each page
Page Numbers are provided at the bottom right hand corner of each page

1 PREAMBLE & SCOPE (APS 27.8.2)

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

(hereinafter called the "Company" has requested us to report on the financial position of the employees Projected Benefits Plan relating to Gratuity Scheme (Called "the Plan") Liabilities and ascertain the accounting expenses of it in accordance with (Ind AS) 19 for the fiscal year/period ending on 31-03-2024

keeping in view the provisions of

a) The Rules of the Scheme, salient features of which are given later in page 6.

b) Relevant Guidance Notes issued by the Institute of Actuaries of India which are currently in vogue.

c) This Report complies with Actuarial Practice Standard 27 (APS 27) as published by the Institute of Actuaries of India (IAI), which came into effect from 1 January 2018.

1.1 This Report is provided subject to the terms set out herein and in the actuarial consulting & Non-disclosure agreement dated 24-04-2021 and the accompanying General Terms and Conditions of Business.

1.2 The Results set out in this Report are based on our understanding of (Ind AS) 19 and its application to the Plan. They have been evaluated for the specific requirements of (Ind AS) 19 and should not be put to any other use or purpose. In particular this Report does not constitute a formal funding valuation of actuarial liabilities of the Scheme and does not present any recommendation of contributions or funding levels.

1.3 This Report is delivered solely for the Company's own use and for the definite and specific purposes indicated above. However, unless expressly agreed in writing with us, this report should not be disclosed nor provided to any other third party nor be used by the Company or its advisers for any purpose other than what it is intended for.((APS 27.8.2)&(A.P.S 27 8.6.3)

1.4 The Company may give a copy of this Report available to its Auditors, in connection with the audit of is financial statements.

1.5 I have prepared this report in my independent professional advisory capacity and do not have any relationship or direct or indirect financial interest in the Company (APS 27.8.2)

2 EXECUTIVE SUMMARY

REPORT HIGHLIGHTS

THE OBJECTIVE OF THIS REPORT IS TO PROVIDE COMPREHENSIVE INPUTS FOR THE COMPANY TO UNDERSTAND THE POTENTIAL COSTS OF CONTINUING TO PROVIDE THE GRATUITY BENEFITS ON THE I) BALANCE SHEET II) PROFIT AND LOSS ACCOUNT AND III) OCI

THE TABLE BELOW SHOWS THE KEY RESULTS FOR THE PERIOD ENDING 31-03-2024

DEFINED BENEFITS COST, P&L CHARGE FOR PERIOD ENDING 31-03-2024

1	Local currency - Indian Rupees:	31-MAR-2023	31-MAR-24
2	CURRENT SERVICE COST	4,12,14,389	5,38,23,585
3	NET PERIODIC BENEFIT COST RECOGNISED IN P & L	3,66,10,122	4,32,13,883
3	OTHER COMPREHENSIVE INCOME / LOSS	-1,93,65,503	13,96,67,712
4	PRESENT VALUE OF DEFINED BENEFITS OBLIGATIONS (DBO)	54,05,51,609	70,99,00,878
5	FAIR VALUE OF THE PLAN ASSETS (FVA)	64,03,29,167	72,11,39,312
6	NET ASSETS/LIABILITIES RECOGNISED IN BALANCE SHEET	9,97,77,557	1,12,38,434
7	Discount rate as per Para 83 of IND AS 19	7.52%	7.22%

Current Service Cost represents the cost associated with the current fiscal year benefit accruals and the past service costs, results from changes in the DBO due to modifications in the benefit plan provisions for employee service in prior periods. Total Employer expense is the expense under (Ind AS) 19 inclusive of Current Service Cost and net interest.

I am presenting in the tables mentioned below further crucial results

Table 1	- Net Periodic Cost Expense for the period ending	31-Mar-24
Table 2	- Re-measurements recognised in OCI for the period ending	31-Mar-24
Table 3	- The Net Asset/(Liability) Recognized in the Balance Sheet as on	31-Mar-24
Table 3A	- The Current & Non-Current in page no.12 for the period ending	31-Mar-24
Table 4	- The Reconciliation of Liability & Plan Assets - Period Ending	31-Mar-24
Table 5	- Expected Cash Flow for next five years	31-Mar-24
Table 6	- Amounts Recognized In Other Comprehensive Income	31-Mar-24
Table 7	- Reconciliation of Net Balance Sheet Liability	31-Mar-24
Table 8	- Sensitivity Analysis over the assumptions	31-Mar-24
Table 9	- Reconciliation of Net Balance Sheet Liability & OCI	31-Mar-24

Please note that the actual defined benefits cost for the next fiscal may be substantially different from the estimate and may be revised if assets /liabilities are remeasured, say due to a significant event, an asset ceiling applies and/or cashflows are updated

3 SOURCES OF INFORMATION

QUALITY CONTROLS (APS 27 8.3.1 & 8.6.3)

3.1 In preparing this Report I have used and relied on the financial data as well as membership information supplied to me on the valuation date by the Company.

3.2 In preparing this Report I have relied on the completeness and accuracy of the Data and Information supplied to me and corroborated orally and in writing by or on behalf of the Company and its advisers. I have not completed any detailed validation checks on the information provided. I have however, carried out broad statistical checks for consistency.

3.3 In Particular I would like to mention that the details of Information on Assets, Plan provisions, amendments, Contributions and Benefits Payments, membership data and movements thereon from start of the period of investigations to the end of the period have been taken as provided by the company.

3.4 **Completeness Check**

We have received the following key information on the valuation date; Date of Birth (DOB), Date of Joining service (DOJ) and eligible salary as on the valuation date (DOV) for all the permanent employees of the company; We have not done any audit of the company's records and assumed that the data includes all eligible employees of the Co. We have checked that there are no missing fields in the data received and where they are missing we communicate and get full information.

3.5 **Reasonableness & Consistency Checks** (A.P.S. 8.6.3)

Cases where DOB is more than DOV or DOJ and where DOJ is more than DOV are identified and rectified; Errors of age at joining(like minors), age on DOV, current age below min and above max age, erroneous salary like very huge or very small. We reconciled the data with last year data to see the age, service and pay moved in a reasonable way.

3.6 I have done a member reconciliation for the inter valuation period comparing the membership at the last valuation with the membership at the current valuation and the movements that took place between the two valuations.

3.7 Data quality & completeness checks, trend analysis, movement analysis, variance analysis, ratio analysis and extreme value checks and system level checks are done

3.8 After completing the checks and any reconciliation of differences we are of the opinion that the data is sufficient to perform the exercise and does not have any material deficiency. (A.P.S.27 8.6.2)

4

FULL PLAN INFORMATION

REFER PARA 139(A)(I) OF (IND AS) 19 & A.P.S.8.6.2

BENEFITS VALUED

This valuation reflects the provisions of the plan as at valuation date. Following is a summary of the major plan provisions used to determine the plan's financial position; It should not be used to determine individual plan benefits.

VALUATION DATE	31-MAR-2024
SPONSORING EMPLOYER	BIHAR STATE POWER TRANSMISSION COMPANY LIMITED
CLASSIFICATION OF BENEFITS PLAN	POST EMPLOYEEMENT BENEFITS
SUB- CLASSIFICATION	DEFINED BENEFITS PLAN
BENEFITS PLAN'S NAME	GRATUITY
ELIGIBILITY	ALL REGULAR EMPLOYEES
VESTING CRITERIA ON RETIREMENT	5 YEARS OF SERVICE
ON LEAVING SERVICE	EQUAL TO OR MORE THAN 5 YEARS OF SERVICE
ON DEATH	VESTING CONDITION NOT APPLICABLE
EMPLOYER CONTRIBUTION	100%
EMPLOYEE CONTRIBUTIONS	NIL
APPLICABLE SALARY	LAST DRAWN BASIC + D.A (EXCLUDING ALL OTHER ALLOWANCES AND PERQUISITES))
NORMAL RETIREMENT AGE	60
BENEFIT BASIS	ACCRUED BENEFITS
BENEFIT PAYMENT TYPES	LUMP SUM PAYMENT
NORMAL RETIREMENT BENEFIT	15/26XSALARYXPQS
EARLY RETIREMENT BENEFIT	SAME AS ABOVE
DEATH BENEFIT	SAME AS ABOVE
PQS(SERVICE CREDIT)	PQS IS COMPLETED YEARS OF SERVICE ROUNDED TO NEAREST INTEGER, SUBJECT TO A MINIMUM OF 5 YEARS OF QUALIFYING SERVICE
MAXIMUM LIMIT ON BENEFITS	RS. 20,00,000
LOCAL CURRENCY	INDIAN RUPEES:

DISCRETIONARY BENEFITS INCREASES	NO ALLOWANCE TAKEN AS WE ARE NOTIFIED BY THE CO. OF NO SUCH PAST PRACTICES (A.P.S.8.3.2)
SPECIAL CONDITIONS	SALARY PAID IN A MONTH IS TREATED AS FOR 26 DAYS AS PER SUPREME COURT JUDGMENT
NEW WAGE CODE	NOT FACTORED AS COMPANIES ARE AWAITING GOVT.NOTIFICATIONS

5

IMPORTANT CHANGES

(As per sec 139 C of IND AS 19)

Valuation Period	From : 31-03-2023 To : 31-03-2024
Name of Event	Status
1. Plan Provisions (A.P.S.8.6.2)	There is no Plan Introduction or Changes in provisions during this period
2. Business Combination	There is no Business combination during this period
3. Divesture	There is no divesture during the period
4. ACQUISITIONS	There is no Acquisition during the period
5. TRANSFER	There is no Transfer During the Period
6. Curtailment	There is no Plan Curtailment during the period
7. Plan Settlement	There is no Plan Settlement during the period
8. Plan Combination	There is no Plan Combination during the period
9. Plan Division	There is no Plan Division during the period
10. Special termination	There is no Special Termination during the period
11. Liability Funding(Para 147(a) (Ind AS) 19	a Funded Gratuity Plan Covering All
12. Funding Methodology(Para 147(a),(Ind AS) 19	Funded through an Insurance Company
13. Benefits Payments	Payments through an Insurance Co
14. Salaries	There is significant increase in average salary during the period
15. Employee Count	There is decrease in employee count during the period
16.Events Post Valuation Date	We have not been notified by the company nor are we aware of any events subsequent to the valuation date which in our opinion would have material impact on the results of the valuation.
17.Changes in Assumptions	Please refer Appendix B, Index No 17
18.Covid 19 Impact	Covid 19 Impact on the Assumptions setting and Neo Normal conditions have been considered while Calibrating Assumption Setting

6 CERTIFICATION

6.1 The Assumptions and Methodology used in compiling this Report are consistent with our understanding of (Ind AS) 19 & APS 27. The Gratuity scheme is treated as a post-employment benefit under (Ind AS) 19 and the actuarial gains & losses are recognised immediately through Other Comprehensive Income (OCI) via retained earnings.

6.2 The Discount rate is based on the market yields of Government bonds as on the valuation date. The term or tenor of bond rates corresponds to a value in years which is the expected term of defined benefit obligation. The other assumptions are chosen to reflect a best estimation of the future long-term experience.(Para 83,84,85 & 86 of Ind As 19)(Para 8.5.2.1 of A.P.S 27)

6.3 The Results are particularly sensitive to some assumptions, such as the discount rate, level of salary inflation, level of assumed price inflation. A decrease in the discount rate assumed or an increase in salary inflation will lead to an increase in reported cost.(A.P.S. 27 8.6.3)

6.4 A Summary of the employee profile is given in **Appendix A.**

6.5 The key assumptions used in the valuations are set out in **Appendix B**

6.6 The distribution of assets categories is set out in Appendix C. & asset liability matching strategies are provided in Appendix D.

6.7 The Approach used for setting the assumptions is given in **Appendix F & similar to used in prior year.**

6.8 No allowance had been made for any corporate income tax. Similarly, all amounts in OCI are displayed on a pre-tax basis.

6.9 The Methodology used in the calculations are set out in **Appendix G.**

6.10 The Items pertaining to Revised Schedule III of Companies Act 2013 is in Table 3 A.

6.11 Based on membership data and plan information provided to me as on the valuation date I have made full actuarial valuation as at the end of the date.

6.12 The full results of my calculations are set out in **Tables 1 to 11**.

6.13 I would be pleased to discuss this Report with you.

Yours faithfully,

Srinivasan Nagasubramanian,
Fellow of the Institute of Actuaries of India.
Mem No: 00144 (1985).
May 30, 2024

7 AMOUNT TO BE RECOGNISED IN PROFIT & LOSS ACCOUNT NET PERIODIC BENEFIT COST RECOGNISED

PARA 120(A) AND 120(B) OF (IND AS) 19

TABLE 1

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES GRATUITY SCHEME

Disclosure of employer expense for the period ending 31-03-2024

LOCAL CURRENCY - INDIAN RUPEES:

Expense Recognised In Income Statement

The following table summarises the components of Net Benefit Expenses recognised in the P&L Account

A	Components of Employer expense		
	Service Cost	**31-Mar-2023**	**31-Mar-2024**
1	Current Service Cost	4,12,14,389	5,38,23,585
2	Plan Amendment	0	0
3	Past service cost	0	0
4	Curtailment Cost/(Credit)	0	0
5	Settlement Cost/(Credit)	0	0
6	Total Service Cost	4,12,14,389	5,38,23,585
	Net Interest Cost		
7	Interest Expense on DBO	3,52,50,678	3,65,91,742
8	Interest (Income on Plan Asset)	-3,98,54,945	-4,72,01,445
9	Interest (income) on reimbursement rights	0	0
10	Interest expense on effect of (asset ceiling)	0	0
11	Total Net Interest	-46,04,267	-1,06,09,703
12	Immediate Recognition of (Gain)/Losses - Other Long Term Benefits	0	0
13	Cost of Termination Benefits/Acquisitions/Transfers	0	0
14	Administrative Expenses/Taxes/Insurance Cost/Exchange Rate cost	-0	-0
15	Amount not recognised as asset (Limit of Para 64(b))	0	0
16	Defined Benefits cost included in P&L (including Para 64(b))	3,66,10,122	4,32,13,883
Discount Rate as per Para 144 of (Ind AS) 19	**7.22%**		

8 REMEASUREMENT EFFECTS RECOGNIZED IN OTHER COMPREHENSIVE INCOME (OCI)

PARA 120 (C) AND PARA 141 (C) OF (IND AS) 19

TABLE 2

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES GRATUITY SCHEME

LOCAL CURRENCY - INDIAN RUPEES:

(Net Asset)/Liability Recognised in OCI on– 31-03-2024

A	Remeasurement effects recognized in Other Comprehensive Income (OCI) (Para 57(d))		
		31-Mar-2023	**31-Mar-2024**
1	Actuarial (Gain)/Losses due to Demographic Assumption changes in DBO	0	0
2	Actuarial (Gain)/Losses due to Financial Assumption changes in DBO	7,70,271	2,98,57,529
3	Actuarial (Gain)/Losses due to Experience on DBO	1,02,54,639	11,65,57,972
4	Return on Plan Asst (more)/Less than Expected based on Discount rate	-3,03,90,413	-67,47,789
5	Return on reimbursement rights (excluding interest income)	0	0
6	Changes in asset ceiling/onerous liability (excluding interest Income)	0	0
7	**Total Actuarial (Gain)/loss included in OCI { Ind As 19 Para 57(d)}**	**-1,93,65,503**	**13,96,67,712**
B	**Defined Benefit Cost (Para 120)**		
8	Cost Recognised in P&L (Ind As 19 Para 57 c)	3,66,10,122	4,32,13,883
9	Remeasurement Effect Recognised in OCI; Para 120 c	-1,93,65,503	13,96,67,712
10	Total Defined Benefit Cost (Para 120 a,b & c)	1,72,44,619	18,28,81,595
11	Amount not Recognised as an Asset (limit in Para 64(b))	0	0
12	**NET EXPENSE**	**1,72,44,619**	**18,28,81,595**

Discount Rate as per Para 144 of (Ind AS) 19 7.22%

9 AMOUNTS TO BE RECOGNISED IN BALANCE SHEET DETAILS OF PROVISION FOR GRATUITY

PARA 57 A,B AND PARA 63 AND 64

TABLE 3

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES GRATUITY SCHEME

Net Asset/(Liability) Recognised in Balance Sheet on– 31-03-2024

LOCAL CURRENCY - INDIAN RUPEES:

The following Table gives the Funded Status and the amount recognised in the Balance Sheet for the Plan

A	Net Asset/(Liability) Recognised in Balance Sheet –		
		31-Mar-2023	**31-Mar-2024**
1	Present value of Funded Obligation	54,05,51,609	70,99,00,878
2	Fair Value of Plan Assets	64,03,29,167	72,11,39,312
3	Present value of Unfunded obligation	0	0
4	Funded status [(Surplus)] {Para 64(a)}	**9,97,77,557**	**1,12,38,434**
5	Unrecognised Past Service Costs	0	0
6	Amount not Recognised as an Asset (limit in Para 64(b))	0	0
7	Net Assest	**9,97,77,557**	**1,12,38,434**
8	**Net Assest Recognised in BS**	9,97,77,557	1,12,38,434
9	**Funding Ratio**	**118.5%**	**101.6%**

Assumption on 31-03-2024 - Discount rate as per Para 83 of IND AS 19: 7.22%

10 DETAILS OF CURRENT AND NON CURRENT PROVISION FOR GRATUITY

AS PER SCHEDULE 3 OF COMPANIES ACT 2013

TABLE 3 A

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES GRATUITY SCHEME

Current & Non-Current Bifurcation 31-03-2024

LOCAL CURRENCY - INDIAN RUPEES:

The following Table gives Current and Noncurrent for the PVO and the Funded Status

A	Bifurcation Of Current & Non-current on			
			31-Mar-2023	**31-Mar-2024**
1	PVO (Unfunded Scheme)	Current		3,83,27,290
		Non-Current		67,15,73,588
2	For Funded Schemes [Surplus/(Deficit)]	Current	0	0
		Non-Current	0	0

For funded schemes as per ICAI circular Guidance Note, page no 18 (See commentary)

See Appendix H, Commentary item 6 on Current & Non Current, of Page No 34

11	CHANGES IN PRESENT VALUE OF DEFINED BENEFIT OBLIGATION AND RECONCILIATION THEREOF-IND AS 19 PARA 140		
	ACTUARIAL MEASUREMENTS FOR (IND AS) 19		
	EMPLOYEES GRATUITY SCHEME		
	TABLE 4		
	BIHAR STATE POWER TRANSMISSION COMPANY LIMITED		
A	LOCAL CURRENCY -	INDIAN RUPEES:	
	Change in DBO over the period ending on (Para 140(a)(ii) and 141)	31-Mar-2023	31-Mar-2024
1	Present Value of Defined Benefits Obligation (Opening)	48,44,56,391	54,05,51,609
2	Interest Cost	3,52,50,678	3,65,91,742
3	Current Service Cost	4,12,14,389	5,38,23,585
4	Prior Service Costs	0	0
5	Settlements	0	0
6	Benefits Pay-outs from plan	-3,13,94,758	-6,74,81,559
7	Benefit payments from employer(Para 141 g)	0	0
8	Acquisitions/Divestures/Transfer	0	0
9	Actuarial (Gains)/Loss	1,10,24,910	14,64,15,501
10	Present Value of Defined Benefits Obligation (Closing)	54,05,51,609	70,99,00,878
B	Reconciliation of Opening & Closing of Plan Assets (Ind AS) 19 Para 140(a) (i)		
1	Fair Value of Plan Assets at end of prior year	48,98,88,136	64,03,29,167
2	Difference in opening Value	0	0
3	Employer Contribution (Para 141 f)	11,15,90,431	9,43,42,471
4	Expected Interest income of assets	3,98,54,945	4,72,01,445
5	Employer direct benefit payments	-0	-0
6	Plan Participant's contributions (Para 141 f)	0	0
7	Transfer In/Acquisitions	0	0
8	Transfer Out/Divestures	0	0
9	Benefits Pay-outs from employer (Para 141 g)	0	0
10	Benefits Pay-outs from plan (Para 141 g)	-3,13,94,758	-6,74,81,559
11	Settlements By Fund Manager (Para 141 g)	0	0
12	Admin expenses/Taxes paid from plan assets	0	0
13	Effect of Change in Exchange rates(Para 141 e)	0	0
14	Insurance premiums for risk benefits	0	0
15	Actuarial Gain/(Loss)	3,03,90,413	67,47,789
16	Fair Value of assets at the End	64,03,29,167	72,11,39,312
17	Actual Return on Plan Assets	7,02,45,358	5,39,49,234

12 CASH FLOW & INFORMATION REQUIRED UNDER IND AS19

Para 147 of Ind AS 19

EMPLOYEES GRATUITY SCHEME

TABLE 5

Bihar State Power Transmission Company Limited

Actuarial measurements for (Ind AS) 19

147 A "The company has started funding the liability through the medium of an insurance company."&" Regular assessment is made by the insurance co of the increase in liability under certain assumptions"&" and contributions are being made to maintain the fund ."&" subject to credit risk of the insurance co & asset liability mismatch risk of the investments (para 146)" the Company will be able to meet the past service liability on the valuation date that fall due during the future

	Local currency -		Indian Rupees:
	Ind As 19 147-b & A.P.S 27 8.6.3		
147-c	Weighted average duration of the D B O	15.69	15.82
	Information on the maturity profile of the liabilities given below	31-Mar-2023	31-Mar-2024
1	Projected Benefit Obligation	54,05,51,609	70,99,00,878
2	Accumulated Benefits Obligation	44,13,71,200	58,51,85,492
	FIVE YEAR PAYOUTS(Para 147 C)	31-Mar-2024	
		Discounted values / Present value	undiscounted values / Actual value
1	Year (I)	3,83,27,290	3,96,89,062
2	Year (II)	3,16,05,422	3,55,71,990
3	Year (III)	3,01,82,997	3,61,46,206
4	Year (IV)	3,41,48,551	4,37,39,325
5	Year (V)	3,10,14,634	4,27,75,813
6	Above 5 Yrs	54,46,21,985	2,05,82,39,726

Please refer appendix H, sec 7, 8 and 9 for Vested obligation, Weighted average duration & Contribution Rates.

13 Amounts Recognized in Other Comprehensive Income

CUMULATIVE FIGURES

TABLE 6

Bihar State Power Transmission Company Limited

Actuarial measurements for (Ind AS) 19

EMPLOYEES GRATUITY SCHEME

Local currency - Indian Rupees:

Amounts Recognized in Other Comprehensive Income For the period ending on 31-03-2024

The following Table gives the amounts Recognized in Other Comprehensive Income (Cumulative figures)

A	Amounts Recognized in Other Comprehensive Income		
		31-Mar-2023	**31-Mar-2024**
1	Opening cumulative other comprehensive Income	17,69,85,532	15,76,20,029
2	Actuarial Loss/(Gain) On DBO	1,10,24,910	14,64,15,501
3	Actuarial Loss/(Gain) On Assets	-3,03,90,413	-67,47,789
4	Prior Service Cost (Credit)	0	0
5	Amortization Actuarial Loss/(Gain)	0	0
6	Amortization Of Prior Service Cost	0	0
7	Net Increase in OCI	-1,93,65,503	13,96,67,712
8	Total Recognised in Other Comprehensive Income	15,76,20,029	29,72,87,741

14 Reconciliation Of Net Balance Sheet Liability, P&L and Cumulative OCI in Balance Sheet

TABLE 7

Bihar State Power Transmission Company Limited

Actuarial measurements for (Ind AS) 19

EMPLOYEES GRATUITY SCHEME

Local currency - Indian Rupees:

Reconciliation Of Net Balance Sheet Liability For the period ending on 31-03-2024

The following Table gives the Reconciliation of Opening Net Balance Sheet Liability, Current Year P&L and Cumulative OCI in Balance Sheet with closing Net Liability

A	Reconciliation Of Net Balance Sheet Liability		
		31-Mar-2023	31-Mar-2024
1	Net Balance sheet Asset/(Liability) Recognised at beginning	54,31,745	9,97,77,557
2	Amount Recognised In Accumulated Other Comprehensive Income/Loss at the beginning of the period	-17,69,85,532	-15,76,20,029
3	(Accrued)/ Prepaid benefit cost (Before adjustment) at beginning the of period	18,24,17,277	25,73,97,587
4	Net Periodic Benefit (Cost)/Income for the period excluding Para 64 (b)	-3,66,10,122	-4,32,13,883
5	Employer Contribution	11,15,90,431	9,43,42,471
6	Employers Direct Benefits Payments	-0	-0
7	Effect of the Limit in Para 64(b) on opening	0	0
8	(Accrued)/Prepaid benefit cost (Before Adj) at end of period	25,73,97,586	30,85,26,175
9	Amount Recognised In Accumulated Other Comprehensive Income/Loss at the end of the period	-15,76,20,029	-29,72,87,741
10	Acquisition/Divestures/Transfer	0	0
11	Effect of the Limit in Para 64(b)	-0	-0
12	Net Balance Sheet Asset/Liab Recognised at the end of the period	9,97,77,557	1,12,38,434

15 RECONCILIATION STATEMENT OF P&L, CURRENT YEAR OCI AND LIABILITY IN BALANCE SHEET

Actuarial measurements for (Ind AS) 19

TABLE 8

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

EMPLOYEES GRATUITY SCHEME

LOCAL CURRENCY - INDIAN RUPEES:

Disclosure of employer expense for the period ending 31-Mar-24

Expense Recognised In Income Statement

The following table summarises the components of net benefit expenses recognised in the Profit / Loss Account and OCI from an accounting perspective

A	Components of Employer expense		
		31-Mar-2023	31-Mar-2024
1	Present value of obligation as at the beginning of the period	48,44,56,391	54,05,51,609
2	Present value of obligation as at the end of the period	54,05,51,609	70,99,00,878
3	Net Increase in Liability over the valuation period	5,60,95,218	16,93,49,269
4	Benefits paid directly from Co	-0	-0
5	Benefits Pay-outs from plan	3,13,94,758	6,74,81,559
6	less actual return on Plan assets	7,02,45,358	5,39,49,234
7	"Cost of Termination Benefits/Acquisitions/Transfers","Administrative Expenses/Taxes/Insurance Cost/Exchange Rate cos","Amount not recognised as asset (Limit of Para59(b))")	-0	-0
8	Expenses recognised in the Statement of Profit / Loss	**1,72,44,619**	**18,28,81,595**
9	P&L in Current year	3,66,10,122	4,32,13,883
10	OCI in Current year	-1,93,65,503	13,96,67,712
11	Effect Of sec 64b	0	0
12	Total	**1,72,44,619**	**18,28,81,595**

16

RECONCILIATION STATEMENT OF P&L, CURRENT YEAR

OCI AND NET LIABILITY IN BALANCE SHEET

Actuarial measurements for (Ind AS) 19

TABLE 9

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

EMPLOYEES GRATUITY SCHEME

LOCAL CURRENCY - INDIAN RUPEES:

Reconciliation of Net Liabilities, OCI and P&L for current year ending on 31-Mar-24

The following table summarises the relationship between

Opening Net liability, employer expense(P&L) for the current Year/Period

OCI for current Year/Period, Employer Contribution for current Period/Year and closing Net Liability

A

		31-Mar-2023	31-Mar-2024
1	Net Asset/(Liability) Recognised at the beginning of the period	54,31,745	9,97,77,557
2	Amount not recognised(Para 64b;Ind as 19)	0	0
3	Employer expense excluding Para 59 (b)	-3,66,10,122	-4,32,13,883
4	OCI for current year	1,93,65,503	-13,96,67,712
5	Employer Contributions	11,15,90,431	9,43,42,471
6	Benefits paid directly from Co	-0	-0
7	Acquisitions/Divestures	0	-0
8	Effect of the Limit in Para 59 (b)	-0	-0
9	Net Asset/(Liability) Recognised at the end of the period	9,97,77,557	1,12,38,434

17

SENSITIVITY ANALYSIS(A.P.S. 27 8.6.3)

STRESS TESTING

INFORMATION REQUIRED UNDER PARA 145 OF (IND AS) 19

TABLE 10

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19

EMPLOYEES GRATUITY SCHEME

SENSITIVITY ANALYSIS FOR THE PERIOD ENDING 31-03-2024

LOCAL CURRENCY - INDIAN RUPEES:

145 A	***How the DBO would have been affected by 100 basis points changes in the actuarial assumptions namely discount rates, salary growth, Attrition & Mortality is shown below***

Disclosures of Stress Testing as on valuation date

A	(Liability) Recognised in Balance Sheet –		70,99,00,878	DECREASE OR
	SCENARIOS	% increase in DBO	LIABILITY	INCREASE IN DBO
1	DISCOUNT RATE +100 basis points	-11.55%	62,78,85,595	-8,20,15,283
2	DISCOUNT RATE -100 basis points	14.02%	80,94,29,349	9,95,28,471
3	SALARY GROWTH +100 basis points	9.51%	77,73,92,039	6,74,91,161
4	SALARY GROWTH -100 basis points	-9.20%	64,45,63,933	-6,53,36,945
5	ATTRITION RATE +100 basis points	2.02%	72,42,70,620	1,43,69,742
6	ATTRITION RATE-100 basis points	-2.35%	69,32,32,544	-1,66,68,334
7	MORTALITY RATE 10% UP	0.05%	71,02,86,782	3,85,904
8	EFFECT OF NO CEILING	5.74%	75,05,48,163	4,07,52,125

145B	We have used P.U.C method. If an employee's service in later years will lead to a materially higher level of benefit than in earlier years, these benefits are attributed on a straight-line basis. The limitations are that in assessing the change other parameters are kept constant. As some of the assumptions may be correlated, it is unlikely that changes in assumptions will occur in isolation of one another.
145 C	***There is no change from the previous period in the methods and assumptions used in the preparation of above analysis, except that the base rates have changed***

18

APPENDIX A

SUMMARY OF EMPLOYEE PROFILES (A.P.S 27 8.6.2)

TABLE A

BIHAR STATE POWER TRANSMISSION

COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR (IND AS) 19 FOR ACTIVE MEMBERS

EMPLOYEES GRATUITY SCHEME

	AS AT	31-Mar-2023	31-Mar-2024	INCREASE / DECREASE
1	Total Number of Employees	2,240	2,223	-0.76%
2	Total Monthly Salary	14,95,40,568	17,28,62,675	15.60%
3	Average Monthly Salary	66,759	77,761	16.48%
4	Average past service	11.03	11.71	0.68
5	Average Age	36.90	37.67	0.77
6	Average future service	23.10	22.33	-0.77
7	Term of Liability	15.69	15.82	0.13
8	Discontinuance Gratuity	68,66,89,670	89,17,30,731	20,50,41,061

19

APPENDIX B

KEY ASSUMPTIONS

One of the principal assumptions is the discount rate, which should be based upon the market yields available on Government bonds at the accounting date with a tenor/term that matches the term of liabilities. The financial and demographic assumptions employed for the calculations as at the end of previous period and current period are as follows.

The bond rates are taken from the site	https://fbil.org.in/

A	Main Assumptions		
	Para 76 & 144 of (Ind AS) 19	31-Mar-2023	31-Mar-2024
1	Discount rate(Ind As 19: Sec83)	7.52%	7.22%
2	Expected return on assets	7.52%	7.22%
3	Future Basic Salary Increase	3.00%	3.00%
4	Future DA Increase	As per Government rule	As per Government rule
5	Attrition Rate	2.00%	2.00%
	*For calculation purpose we have taken 6% overall increase in Salary		
	Mortality - Indian Assured Lives Mortality (2012-14) Ultimate		

B	SAMPLE PICK FROM THIS TABLE AS BELOW	
	Age	Mortality Rate
	20	0.000924
	30	0.000977
	35	0.001202

Disability: Provided under demographic assumptions P 24

Notes:

1. All the assumptions have been set following discussions with the company in this regard;
2. We understand that level of inflation, career promotions, productivity gains and other relevant factors, such as supply and demand in the employment market are factored in the assumption of future salary increases.
3. No allowance has been made for discretionary payments in the assumptions as the company has not notified such practices(A.P.S.8.6.3)

Contd...

20

APPENDIX C

Major Categories of Plan Asset As a percentage of the fair value

Para 142,Ind AS 19 & A.P.S.27 8.6.3

Bihar State Power Transmission
Company Limited

EMPLOYEES GRATUITY SCHEME

DISTRIBUTION OF ASSET CLASSES

A	**AS AT**		
	PERCENTAGES	**31-Mar-2023**	**31-Mar-2024**
1	Gov. Securities (Central & State)	0.00%	0.00%
2	High quality Corporate Bonds	0.00%	0.00%
3	Equity shares of Listed Cos	0.00%	0.00%
4	Property	0.00%	0.00%
5	Special deposits	0.00%	0.00%
6	Others (PSU)	0.00%	0.00%
7	Assets Under Insurance Schemes	100.00%	100.00%
8	Total	100.00%	100.00%

21

APPENDIX D

ASSET LIABILITY MATCHING STRATEGIES
PARA 146, (IND AS) 19 A.P.S 8.6.3

BELOW PARA IS APPLICABLE

Insurer Administered Fund

The company has funded the liability with the insurance company. The entire investible assets are managed by the fund managers of the Insurance company and the Asset Values as informed by the Insurance Company has been taken for the valuation purpose. The policy, thus, mitigates the liquidity risk. However, being a cash accumulation plan, the duration of assets is shorter compared to the duration of liabilities. Thus, the Company is exposed to movement in interest rate (in particular, the significant fall in interest rates, which should result in a increase in liability without corresponding increase in the asset). .

Thus, the Company is exposed to movement in interest rate (in particular, the significant fall in interest rates, which should result in a increase in liability without corresponding increase in the asset).

APPENDIX E

ELABORATION ON ACTUARIAL ASSUMPTIONS:

I have used actuarial assumptions selected by the Company. Any Changes in actuarial assumptions, methods or plan provisions since the prior valuations are described in this report. The assumptions used in compiling this report are consistent with the requirements of (Ind AS) 19 . The company was advised on assumptions as per the requirements under (Ind AS) 19 & APS 27. Company attention was drawn to provisions of accounting standard that actuarial assumptions are an entity's best estimates of variable that will determine the ultimate cost of providing post-employment benefits and shall be unbiased & mutually compatible.(Ind As 19 Sec 75 & Sec 76). Based on the information provided to us, we believe that the actuarial assumptions are reasonable for the purposes described in the report.

FOR SALARY ESCALATION (A.P.S 27: 8.5.2.2) & IND AS 19 SEC 90)

In projecting the salary increases there are three factors to consider -first is inflation level leading to a general change in salary level. The other two are career progression of the employees & productivity gains for the organization. Where appropriate for the salary increases, a periodic salary experience study with the client's data will be conducted as an input for the client, when setting the assumption.

To study salary escalation pattern for this company, we have analysed the company's salary growth for the past 1 year based on the data given by the company.

Investigation has been carried out in accordance with APS 27

DEMOGRAPHIC ASSUMPTIONS:

FOR ATTRITION / WITHDRAWAL RATES A.P.S 27:8.5.2.4

Withdrawal rates, both at early durations of service and near retirement date, not only have 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 analyzed 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, HR retention policies, Competitors behaviour, Supply and demand in labour markey and Companies Share of market Business and Company’s standing in the market.

Furthermore, withdrawal rates differ significantly from scheme to scheme and within a scheme from year to year. We examine these rates and any other information available and use best possible judgment to cater to the long term nature of the actuarial estimates being is carrying out.

THE FOLLOWING DEMOGRAPHIC ASSUMPTIONS WERE USED IN VALUING THE LIABILITIES AND BENEFITS UNDER THE PLAN.	
Mortality:	Indian Assured Lives Mortality (2012-14) Ultimate
Disability:	5% of mortality rate rates
Withdrawal:	2.00%
Retirement age:	60

Appendix E(a)

Table of Sample Rates

Mortality			Disability	
Male	Female	Age	Male	Female
0.0924%	0.0924%	20	0.0046%	0.0046%
0.0931%	0.0931%	25	0.0047%	0.0047%
0.0977%	0.0977%	30	0.0049%	0.0049%
0.1202%	0.1202%	35	0.0060%	0.0060%
0.1680%	0.1680%	40	0.0084%	0.0084%
0.2579%	0.2579%	45	0.0129%	0.0129%
0.4436%	0.4436%	50	0.0222%	0.0222%
0.7513%	0.7513%	55	0.0376%	0.0376%
1.1162%	1.1162%	60	0.0558%	0.0558%
1.5932%	1.5932%	65	0.0797%	0.0797%
2.4058%	2.4058%	70	0.1203%	0.1203%
3.8221%	3.8221%	75	0.1911%	0.1911%
6.1985%	6.1985%	80	0.3099%	0.3099%
10.0979%	10.0979%	85	0.5049%	0.5049%
16.3507%	16.3507%	90	0.8175%	0.8175%
25.9706%	25.9706%	95	1.2985%	1.2985%
39.7733%	39.7733%	100	1.9887%	1.9887%
Withdrawal		Age	Retirement	
2.00%	2.00%	20	0%	0%
2.00%	2.00%	25	0%	0%
2.00%	2.00%	30	0%	0%
2.00%	2.00%	35	0%	0%
2.00%	2.00%	40	0%	0%
2.00%	2.00%	45	0%	0%
2.00%	2.00%	50	0%	0%
2.00%	2.00%	55	0%	0%
2.00%	0.00%	60	0%	0%
0.00%	0.00%	65	100%	100%
0.00%	0.00%	70	100%	100%
0.00%	0.00%	75	100%	100%
0.00%	0.00%	80	100%	100%
0.00%	0.00%	85	100%	100%
0.00%	0.00%	90	100%	100%
0.00%	0.00%	95	100%	100%
0.00%	0.00%	100	100%	100%

UNIT WISE GRATUITY LIABILITY AS ON 31-MAR-2024

S.NO	UNITS	LIABILITY
1	GPF- COMPANY	13,40,31,018
2	CPS-COMPANY	34,94,89,795
3	COMPANY	22,63,80,065
	TOTAL	70,99,00,878

EXPECTED CONTRIBUTION FOR THE NEXT ANNUAL REPORTING PERIOD

a)	Service cost	5,92,05,944
b)	Net Interest cost	-8,11,415
c)	Expected Expense for the next annual reporting period	5,83,94,529

23 APPENDIX F: THE METHODOLOGY

(PARA65- 67-70 OF IND AS 19) & (A.P.S 27 8.6.3)

1 Defined Benefits Schemes:

These are schemes under which benefits are related to the remuneration at or near retirement, and /or years of service. The extent of an employer's obligation under such schemes is usually uncertain and requires estimation. In estimating the obligation, assumptions are made regarding future conditions and events, which are largely outside the employer's control.

2 Allocation Problems:

The retirement benefits under defined benefit schemes are earned over a long period and various factors frequently enter into the computation of these benefits. As a result, allocation problems arise in determining how the cost of retirement benefits should be recognized in the financial statements of the employer. The cost of retirement benefits to an employer relates to service put in by employees who are entitled to receive such benefits. Consequently, the cost of retirement benefits needs to be accounted for in the period during which these services are rendered. Expensing the Defined Benefit retirement benefit costs at the time of employee's exit does not appropriately achieve the objective of allocating these costs uniformly over the working lifetime of the employees.

3 Actuarial Value of Accrued Obligation:

This is done having regard to the following:

1) The Accrued Service as on the date of valuation 2) Salaries projected to the date of separation, based on appropriate assumptions as to the average rate of future annual salary increases. 3) The probabilities of death or resignation before retirement. 4) The likely future return on investments of funds.

4 Projected Unit Credit Method (Summary of Actuarial Cost Method):

We have used the Projected Unit Credit (PUC) actuarial method to assess the Scheme's liabilities, as required by AS 15 (revised 2005), including those related to death-in-service and incapacity benefits. Under the PUC method a "projected accrued benefit" is calculated at the beginning of the year and again at the end of the year for each benefit that will accrue for all active members of the Plan. The "projected accrued benefit" is based on the Scheme's accrual formula and upon service as of the beginning or end of the year, but using a member's final compensation, projected to the age at which the employee is assumed to leave active service. The Scheme Liability is the actuarial present value of the "projected accrued benefits" as of the beginning of the year for active members.

5 The measurement:

The liability is determined actuarially, by calculating the expected future cash outflows in respect of each individual employee by the application of a multiple decrement table which takes in to account the exits by way of normal age-retirement, earlier death while in service and other premature withdrawals. Then the present value of these expected payments is arrived at, using an appropriate rate of discount and added up.

6 Recognition of Actuarial Gains and Losses:

Under Ind As 19 standard the actuarial gains and losses will be taken to balance sheet through OCI..

7 More Elaboration on PUC Method

Benefits obligations are estimated using the projected Unit Credit method. Under this method each participant's benefits under the plan are attributed to years of service, taking into consideration future salary increase and the plan's benefit allocation formula. If an employee's service in later years will lead to a materially higher level of benefit than in earlier years, these benefits are attributed on a straight-line basis. A description of the calculation follows:

- An individual's estimated attributed benefits for valuation purposes related to a particular separation date (e.g. expected date of retirement, leaving service or death) is the benefit described under the plan based on credited service as at the measurement date, but determined using the projected salary that would be used in the calculation estimate of the benefit on the expected separation date.
- The benefit attributed to an individual's service during a plan year is the excess of the attributed benefit for valuation purposes at the end of the plan year over the attributed benefit for valuation purposes at the beginning of the plan year. Both attributed benefits are estimated from the same projections to the various anticipated separation dates.
- An individual's estimated benefit obligation is the present value of the attributed benefit for valuation purposes at the beginning of the year, and the service cost is the present value of the benefit attributed to the year of service in the plan yea. If multiple decrements are used, the benefit obligation and the service cost for an individual are the sum of the component benefit obligations and service costs associated with the various anticipated separation dates. Such benefit obligations and service costs reflect the estimated attributed benefits and the probability of the individual separating on those dates.
- In all cases, the benefit obligation is the total present value of the individual's attributed benefits for valuation purposes at the measurement date, and the service cost is the total present value of the individual's benefits attributable to service during the year. If multiple decrements are used, the present values take into account the probability of the individual leaving employment at the various anticipated separation dates.

8 Accounting Policies: The accounting policies in cases where the Company has a choice of policy are set out below. There have been no changes to the actuarial methods or accounting policies since the prior valuation.

Accounting Principles:
The benefit expense for the year is made up of

- the cost of the additional benefits that members accrue during the year based on projected salaries at retirement or earlier termination (current service cost);
- plus, interest on the defined benefit obligation (interest cost)
- less the expected return on the assets held by the plan (expected return on plan assets);
- plus, or minus the amount required to recognise actuarial losses or gains in accordance with the Company's accounting policy.

The amount recognized as a net gratuity/pension liability / (asset) in the company balance sheet is:

- the deficit (surplus) in the plan at the balance sheet date
- The amount falling due in the next one year(Short term liability)

9 Materiality threshold: Company has not instructed us to make any adjustments to the valuation procedures described in order to satisfy its materiality threshold

10 Interest on service cost: Interest on the service cost is allowed for in the service cost

11 Significant events: No significant events have occurred during the reporting period that require accounting policy decisions.

12 Discretionary benefits: No allowance is made in the benefit obligation for discretionary benefits on the grounds that there is no constructive obligation to provide such benefits. Therefore any benefit increases that are awarded on a discretionary basis are accounted for as a past service cost

13.**Safe Harbour Notifications**:

To prepare the valuation report, assumptions are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the Plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely 'correct' and many alternative projections of the future could also be regarded as reasonable.

Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A 'sensitivity analysis' shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those utilized in this report

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security, and/or benefit-related issues should not be made solely on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic, and societal factors, including financial scenarios that assume future sustained investment losses.

The Company is ultimately responsible for selecting the plan's accounting policies, methods, and assumptions. This information is referenced or described in Section 8 above Appendix G of this report. The Company is solely responsible for communicating to Armstrong International consultants for any changes required to those policies, methods and assumptions.

24 APPENDIX G: COMMENTARY

1.Description of plan Characteristics and associated risks:

(Para 135 a and Para 139 b;Ind AS19)

The Gratuity scheme is a final salary defined benefit plan, that provides for a lumpsum payment at the time of seperation; based on scheme rules the benefits are calculated on the basis of last drawn salary and the period of service at the time of seperation and paid as lumpsum. There is a vesting period of 5 years. The design entiles the following risks that affect the liabilities and cash flows,

a) Interest rates risk:

The defined benefit obligation calculated uses a discount rate based on government bonds. If bond yields fall, the defined benefit obligation will tend to increase. Thus the plan exposes the Company to the risk of fall in interest rates. Some times, the fall can be permanent, due to a paradigm shift in interest rate scenarios because of economic or fiscal reasons. A fall in interest rates will result in an increase in the ultimate cost of providing the above benefit and will thus result in an increase in the value of the liability (as shown in financial statements). Even for funded schemes, a paradigm downward shift in bond yields may affect the reinvestment yields and may increase ultimate costs.

b) Salary inflation risk:

The present value of the defined benefit plan is calculated with the assumption of salary escalation rate(SER), which is applied to find the salary of plan participants in future, at the time of separation Higher than expected increases in salary will increase the defined benefit obligation and will have an exponential effect.

c) Retirement age:

It should be noted that in case of employees above retirement age, for the purpose of valuation it is assumed they will retire immediately & benefit is considered up to actual retirement age.

D). Demographic risks:

Demographic assumptions are required to assess the timing and probability of a payment taking place. This is the risk of volatility of results due to unexpected nature of decrements that include mortality, attrition, disability and retirement. The effects of this decrement on the DBO depend upon the combination salary increase, discount rate, and vesting criteria and therefore not very straight forward. It is important not to overstate withdrawal rate because the cost of retirement benefit of a short serving employees will be less compared to long service employees.

E). Asset Liability Mismatch:

This will come into play unless the funds are invested with a term of the assets replicating the term of the liability

F). Actuarial Risk:

It is the risk that benefits will cost more than expected. This can arise due to one of the following reasons
Adverse Salary Growth Experience: Salary hikes that are higher than the assumed salary escalation will result into an increase in Obligation at a rate that is higher than expected.

Variability in mortality rates: If actual mortality rates are higher than assumed mortality rate assumption than the Gratuity benefits will be paid earlier than expected. Since there is no condition of vesting on the death benefit, the acceleration of cash flow will lead to an actuarial loss or gain depending on the relative values of the assumed salary growth and discount rate.

Variability in withdrawal rates: If actual withdrawal rates are higher than assumed withdrawal rate assumption than the Gratuity benefits will be paid earlier than expected. The impact of this will depend on whether the benefits are vested as at the resignation date

G. INVESTMENT RISK:

For funded plans that rely on insurers for managing the assets, the value of assets certified by the insurer may not be the fair value of instruments backing the liability. In such cases, the present value of the assets is independent of the future discount rate. This can result in wide fluctuations in the net liability or the funded status if there are significant changes in the discount rate during the inter-valuation period.

H. LIQUIDITY RISK:

This is the risk that the Company is not able to meet the short-term gratuity pay outs. This may arise due to non availability of enough cash / cash equivalent to meet the liabilities or holding of ill illiquid assets not being sold in time..
Employees with high salaries and long durations of service or those higher in hierarchy, accumulate significant level of benefits. If some of such employees resign / retire from the company there can be strain on the cash flows.

I. MARKET RISK:

Market risk is a collective term for risks that are related to the changes and fluctuations of the financial markets. One actuarial assumption that has a material effect is the discount rate. The discount rate reflects the time value of money. An increase in discount rate leads to decrease in Defined Benefit Obligation of the plan benefits & vice versa. This assumption depends on the yields on the corporate / government bonds and hence the valuation of liability is exposed to fluctuations in the yields as at the valuation date.

J. LEGISLATIVE RISK/REGULATORY RISK:

Legislative risk is the risk of increase in the plan liabilities or reduction in the plan assets due to change in the legislation / regulation. The government may amend the Payment of Gratuity Act thus requiring the companies to pay higher benefits to the employees. This will directly affect the present value of the Defined Benefit Obligation. The new labour code is a case in point. And the same will have to be recognized immediately in the year when any such amendment is effective.

2.(A)DESCRIPTION OF REGULATORY FRAME WORK:

(PARA 139 A (II) OF IND AS 19)

While the payment of gratuity is statutory and provided by the Payment Of Gratuity Act 1972 and subsequent amendments; there are no statutory minimum funding requirement for gratuity plans in India. As per Section 4A of POGA insurance is mandatory, but State Governments have not passed necessary legislation except the State of Andrapradesh. However the companies can setup a separate irrevocable trust and start funding for the gratuity liability and avail of tax exemption under the income tax act. Interest income also becomes tax free under this trust funding approach.By this the security of gratuity benefits to the employees is ensured. Once insurance is taken, the contribution payable to the Insurance becomes current liability, thanks to the Institute of Chartered Accountant's GNs.

2.(B) DESCRIPTION OF ENTITY'S RESPONSIBILITIES FOR GOVERNANCE:

(PARA 139(A)(III) OF IND AS 19)

The trustees of the Trust created for the plan becomes responsible for the governance of the plan when funding is opted. When funding is not done, the entities are responsible for governance and can discharge the responsibility by the following choices available: i) pay-as-you-go ii) smoothed pay-as-you-go iii) terminal funding iv) just in time funding v) regular contributions vi) lumsum in advance.

3.ON ASSUMPTIONS:

To prepare this report, actuarial assumptions as agreed by the Company, are used to select a single scenario from the range of possibilities. The results of that single scenario are included in this report. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material. In addition, different assumptions or scenarios may also be within the reasonable range and results based on those assumptions would be different. Actuarial assumptions may also be changed from one valuation to the next because of mandated requirements, plan experience, changes in expectations about the future and other factors.

1 The effects of Morbidity and Withdrawals(Attrition) have been factored by constructing a multiple decrement table on assumption of Mortality Table

4. Basis of Valuation:

All costs, liabilities and other factors under the plan were determined in accordance with generally accepted actuarial principles and procedures.

5.Valuation Formulas:

Consider an employee at 31 Mar 22 to be aged x Years
With Past Service up to 31 Mar 22 - $PSERV_{(x:31-03-22)}$
With Salary at 31 Mar 22 - $SAL_{(x:31-03-22)}$
Accordingly, Gratuity payable to this employee would be computed as

$$GRAT_x = GF * SAL_{(x:\,31-03-22)} * PSERV_{(x:\,31-03-2022)}$$

Where, GF is a **Gratuity Factor** based on scale of benefits.

Accordingly, if he leaves 't' years from now, then Gratuity arising out of his service up to now would be increased due to salary escalation during these 't' years.
Accordingly, gratuity payable would be

$$GRAT_{(x+t)} = GF * SAL_{(x:\,31-03-22)} * (1+j)^t * PSERV_{(x:\,31-03-22)}$$

Where, j is **the rate of increase of salary per year**

This gratuity will be payable if he dies in service between year t and $t+1$.

$$Probable\ Gratuity\ on\ Death = GRAT_{(x+t)} * q_{(x+t)}$$

Where, q_{x+t} is the probability of dying during age $x+t$ to $x+t+1$

Present value of gratuity payable on death during age x+t will be arrived by discounting at rate i for t years.

Accordingly,

$$VGRATd_{(x+t)} = GRAT_{(x+t)} * \frac{q_{(x+t)}}{(1+i)^t}$$

Where, i is **the Discounting Rate**.

Gratuity payable on withdrawal and retirement is similarly worked out.

Accordingly, present value of Gratuity payable at age $x+t$ if one resigns during age $x+t$ to $x+t+1$ is

$$VGRATw_{(x+t)} = GRAT_{(x+t)} * \frac{w_{(x+t)}}{(1+i)^t}$$

Accordingly, present value of Gratuity payable at age $x+t$ if one retires during age $x+t$ to $x+t+1$ is

$$VGRATr_{(x+t)} = GRAT_{(x+t)} * \frac{r_{(x+t)}}{(1+i)^t}$$

Accordingly, summing for all the three modes of exit, the present value of Gratuity payable at age $x+t$ if one separates during age $x+t$ to $x+t+1$ is

$$VGRAT_{(x+t)} = GRAT_{(x+t)} * \frac{(Death\ Factor + Withdrawal\ Factor + Retirement\ Factor)}{(1+i)^t}$$

$$VGRAT_{(x+t)} = GRAT_{(x+t)} * \frac{(q_{(x+t)} + w_{(x+t)} + r_{(x+t)})}{(1+i)^t}$$

Aggregate of $VGRAT_{(x+t)}$ for ages from x till Retirement Age are therefore, present value of Gratuity payable to that individual - this is expressed as $V_x = \sum_x^r VGRAT_{(x+t)}$, where summation is made from age x to age r , where r is the retirement age
Aggregate of V_x for all individual employees the Gratuity liability of the Company on the valuation date.

6.CURRENT& NON –CURRENT LIABILITIES:

(NOT SPECIFIED UNDER IND AS 19; SEC 133)

Regarding funded post-employment benefit obligations, amount due for payment to the fund created for this purpose within twelve months is treated as "current" liability. This is as per Institute of Chartered Accountants circular date December 2011.Guidance Note on the revised schedule 3 of the companies Act, 2013. Page 18, Sec 7.3.C reproduced below

Regarding funded post-employment benefit obligations, amount due for payment to the fund created for this purpose within twelve months is treated as "current" liability. Regarding the unfunded post-employment benefit obligations, a company will have settlement obligation at the balance sheet date or within twelve months for employees such as those who have already resigned or are expected to resign (which is factored for actuarial valuation) or are expected to die according to mortality table used (which is factored for actuarial valuation) or are due for retirement within the next twelve months from the balance sheet date. Thus, the amount of obligation attributable to these employees is a "current" liability.

The remaining amount attributable to other employees, who are likely to continue in the services for more than a year, is classified as "non-current" liability. Normally the actuary should determine the amount of current & non - current liability. Normally the actuary should determine the amount of current & non- current liability for unfunded post-employment benefit obligation based on the definition of current and Non- current assets and liabilities in the Revised schedule 3.

This is shown in our table 3A under Funded status, row No2. Regarding the unfunded postemployment benefit obligations, a company will have settlement obligation at the Balance Sheet date or within twelve months for employees such as those who have already resigned or are expected to resign (which is factored for actuarial valuation) or are due for retirement within the next twelve months from the Balance Sheet date. Thus, the amount of obligation attributable to these employees is a current Liability. This is shown under Line 1 of Table 3A.

7.DISCONTINUANCE GRATUITY, VESTED GRATUITY, ACCUMULATED BENEFITS OBLIGATION & CASH FLOWS:

Discontinuance Gratuity refers to the payment of Gratuity Liability on the Valuation Date in case the company discontinues its commercial operations. It is the sum total of gratuity payable to each and every employee including those with less than 5 years of service. Vested Gratuity refers to Gratuity payable to those employees, who have qualified with the vesting conditions. Accumulated Benefits refres to the discounted benefits obligation, without projection of Salary Growth Rate.Undiscounted Cash flows shown in column I represents cash flows atually expected in each future years, while the corresponding discointed value is shown in column H.

8.TERM OF FUTURE LIABILITY: is a weighted average term or duration, the liabilities falling due in each year being the weights. The discount rate is based on the term of the future liability. Term of the future liability is equal to term used in the bond rate table, for determining the discount rate.
Duration (D) = $\sum t v^t CF_t / P$, where

P = $\sum v^t CF_t$

The discount rate is based on the term of the future liability. Term of the future liability is equal to term / tenor used in the bond rate table, for determining the discount rate

9.DETERMINATION OF CONTRIBUTION RATES:

This can be done by the companies by spreading the balance Actuarial liability as on the valuation Date
(i.e. Total Benefit Obligation taking into account the total service of the employees from date of joining to retirement less the current asset for the Plan) over the balance expected service of the employees as a group.
The annual contribution rate to meet future service liability is calculated using the Expression below:

(1) Actuarial Value of Total Service Liability Less Assets Value: TBO-A

(2) Actuarial Value of One Percent of future salaries over the balance Expected service time.1%C

(3) Uniform Future Annual Contribution Rate (%) = (1)/(2) = (TBO-A)/1%C

10.UNDERSTANDING ACTUARIAL GAINS AND LOSSES:

Possible reasons for Actuarial Gains or Losses on Plan Liabilities

1. If the actual attrition, retirement or mortality experience turns out to be higher or lower than expected based on the assumptions made at the start of the accounting period, it would lead to an Actuarial Gain or Loss on Plan Liabilities.
2. If the salary increases are higher or lower than expected based on the assumption made at the start of the accounting period, it would lead to an Actuarial Gain or Loss on Plan Liabilities.
3. If the actuarial assumptions of salary increase, attrition rate and discount rate change from one valuation year to another, it may lead to Actuarial Gain or Loss on Plan Liabilities.
4. Any significant changes in the demographic profile may also lead to Actuarial Gain or Loss on Plan Liabilities such as a large growth of the employee count from new joiners.

Possible reasons for experience Gains or Losses on Plan Assets:

1. Return on plan assets greater /(lesser) than discount rate. For example, if the discount rate was 8% and the fund actually earned 7%, it would result in an actuarial loss on assets.

11.Asset Liability Matching Strategies:

(Para 146, Ind as 19)

If the Company has purchased insurance policy, it is basically a year-on-year cash accumulation plan in which the interest rate is declared on yearly basis and is guaranteed for a period of one year. The insurance Company, as part of the policy rules, makes payment of all gratuity out goes happening during the year (subject to sufficiency of funds under the policy). The policy, thus, mitigates the liquidity risk. However, being a cash accumulation plan, the duration of assets is shorter compared to the duration of liabilities. Thus, the Company is exposed to movement in interest rate (in particular, the significant fall in interest rates, which should result in a increase in liability without corresponding increase in the asset).

The company can have own funding to reduce the risk of asset liability mismatch and invests in unitised fund of insurance companies with option to switch to various units, including equity type units.

12. Suitability of Investment Approaches :

Under AS 15 (revised, 2005) actuarial gains and losses are recognised immediately. And under Ind As 19 they are taken to balance sheet as OCI. Unless the assets are directly matched to the liabilities, there may be considerable volatility in the value of the assets relative to the liabilities.

In our context, the value of liabilities depends on the yield on government securities on the balance sheet date and thus market related. If theme is funded through a deposit administration type of scheme. The fund is credited with declared interest every year and the fair value of assets is set as the balance in the fund as at the particular date.

Thus value of the assets is the capital value of the deposit fund and the interest additions. The market value of the underlying investments of the insurer on the balance sheet would be different from this capital value. Thus there is a potential mismatch of assets and liabilities. This would create volatility in the funded status.

A unit linked managed fund would directly provide the market value of the underlying securities on the balance sheet date through its net asset value. Thus it could match with the liabilities and reduce this volatility in funded status.

However if there is liquidity constraint forcing realization of assets, this could create problems as the benefits may need to be paid as times of lower NAV, impacting the security of benefits. This problem is exacerbated if the scheme is poorly funded or closed for further accrual.

However the benefits can be predicted to some extent – as the retirement date and the service at retirement are predictable. This could be used to plan a proper strategy if there is a need to realize assets. However there would still be some uncertain death benefits which need to be paid.

The matching of assets and liabilities would be closer if the underlying securities are government securities of the same duration as the liabilities. Thus a G-Sec fund could provide the best possible match as for accounting is concerned.

However, a G-Sec fund may not be available. In such a case, a partial match could be obtained by investing in Debt Funds which usually could include some corporate bonds. However such funds should consider and satisfy the investment regulations for the fund.

An Equity fund will not provide sufficiently correlated assets in terms of the yield on the government securities. It may also be not possible given the investment regulations. However this could provide a good match against the salary increases.

Hence an investment with a minimum Equity Fund plus a G-Sec / Debt fund which satisfies the investment regulations and which is based on a full funding could be recommended. This approach would minimize the volatility of funded status without significantly impacting the security of the benefits.

12. Funding Policy and Funding arrangements:

The *funded status* is the excess of assets over the liabilities, *i.e.* any surplus or deficit in the pension scheme, calculated on the appropriate method and assumptions as per Ind AS 19; It is shown under Table 3 of our report, page no 11. The funded ratio shows or reflects as a measure of security of the funds, if any backing the scheme assets. 0 value reflects the least secure method.

Other matter affecting security of funds for payments are:
Employer Insolvency: The main risk that a beneficiary is exposed to is the sponsoring employer becoming insolvent. In such a scenario, the higher the funded status (or the assets), more will be the security. The extent of this security is dependent on the priority that is given to the funded status in the event of a wind-up when the sponsor is insolvent.
The security of benefits even otherwise would depend on the availability of moneys at the time the benefit payment is to be made. In this sense, the higher the funded status (or the assets), more will be the security.
The method and the assumptions used for an accounting valuation determine the pace of expensing. However the actual cost / benefit depend on the actual outcomes of the various assumptions. In this sense, the funded status though does not completely reflect the security of the scheme. However if these assumptions are the best estimate of the future experience, then a positive funded status would always be better.

Scheme Related Events: Any events which are not included in the scheme rules can be considered as scheme related event. This could be payment of benefits of more favourable terms than those under the scheme rules without additional funding. This could be making or accepting a transfer payment which is different from its actuarially equivalent value. These events could affect the security of the benefits.
Poor Investment Performance: This is a manufacturing company and so its business may be cyclical. Therefore, there is a risk that the poor investment performance and requests for additional contributions occur at a time when the company's business is performing poorly and so it is least able to afford to pay additional contribution. Hence it may affect the security of the scheme.

Safeguarding Measures: The measures that could be considered include:

- *Minimum Funding:* A funding objective and a minimum funding could be stipulated to enhance the security of the benefits.
- *Investment Strategy:* The trustees could look at formulating and reviewing a suitable investment strategy for better investment management.
- *Investment Restrictions:* A restriction on the investment – in terms of self investment and risky investments would enhance the security of the benefits.
- *Scheme Regulations:* The company could influence the government or join hands with other companies in the same vertical for creating a regulatory mechanism to oversee the functions of the trust and to stipulate various measures.
- *Disclosure to Members:* The *company* should disclose to the members information about the scheme on a regular basis including the funding level and investment performance.
- *Protection Funds / Insurance:* The company could buy insurance against investment performance or insolvency. This could be an industry organized mechanism or could be stipulated by the government.
- *Notification of Events to the Regulator (assuming regulation in force):* The events relating to the scheme could be informed to the regulators for better management of the security and expectations of the scheme members.
- *Sponsor Covenant:* The trustees could define methods for measuring and monitoring sponsor covenant and taking appropriate action.

25 APPENDIX H INDEX OF IND AS 19

S.No	SECTION/PARA OF IND AS 19	HEADING	PAGE NO	TABLE NO / ARTICLE NO	Row
1	Para 57 a i, ii, iii	Accounting for Defined Benefit Plan	11	3	Full Table
2	Para 57 b	Effect of Asset ceiling	9,11	1	Table 1--Row 9, Table 3-- Row 6
3	Para 57 c	Determining amounts to be recognized in P/L	9	1	Full Table
4	Para 57 d	Re-measurements in OCI	10	2	Full Table
5	Para 57 d	Re-measurements in OCI	13	4	Table 4A Row11, Table 4B Row 11
6	Para 63 and 64	Balance Sheet	11	3	Full Table
7	Para 64 b	Effect of Asset ceiling	9,11	1 & 3	Table 1--Row 9, Table 3-- Row 6
8	Para 120	Total Cost Recognized	10	2	Full Table
9	Para 120 (a) and 120 (b)	Components of defined benefit costs	9	1	Full Table
10	Para 120 (C)	Re-measurements in OCI	10	2	Row 7
11	Para 135 (a)	Characteristics of Defined Benefits Plan and Risks associated with that	24	Appendix H	1.5 page
12	Para 135 (b)	Explanation of amounts in financial statements	9--13	1,2,3,3A and 4	full Table
13	Para 135 (c)	Amount, timing and uncertainty of future cash flows	14,17	5,9	Full Table
14	Para 139 a (i)	Nature of Benefits provided by plan	6	Article 5	Full Table
15	Para 139 a (ii)	Description of the regulatory framework under which the plan operates	26	2A	
16	Para 139 a (iii)	Description of the entities responsibility for Governance	26	2B	
17	Para 139 b	Risk Exposures	25	Appendix F	1.5 page
18	Para 140(a)(i)	Reconciliation of the Fair Value of Plan Assets	13	4--B	Lower Part of 4
19	Para 140(a)(ii)	Reconciliation of the Present Value of Obligation	13	4--A	Upper Part of 4
20	Para 140(a)(iii)	Effect of Asset ceiling	9,11	1	Table 1--Row 9, Table 3-- Row 6
21	Para 141, a	Service cost,	13	4--A	Row 2
22	Para 141 b	net interest cost	9	1	Row 10
23	Para 141 b	net interest cost	13	4--A,4--B	4--A, Row 2;4--B, Row 2
24	Para 141 c	Re-measurements	10	2	Row 7
25	Para 141 c	Re-measurements(actuarial Gains /Losses)	13	4	4--A Row 11 and 4--B, Row 11
26	Para 141 e	the effect of changes in foreign exchange rates.	13	4	4B ,Row 9
27	Para 141 f	Contributions to the plan, showing separately those by the employer and by plan participants.	13	4	4B ,Row 3a, 3b
28	Para 141 g	Payments from the plan, showing separately the amount paid in respect of any settlements.	13	4	4B, Row 5,6,7
29	Para 141 h	The effects of business combinations and disposals.	13	4	4--A, Row 7
30	Para 142	Major Categories of Plan Asset As a percentage of the fair value	20	APPENDIX C	Full table
31	Para 144	Principal Actuarial Assumptions	19&21	Appendix B and Appendix D	Full Table
32	145 A	Sensitivity analysis	17	TABLE 8	row no 16 to 22
33	145 B.	Methods, Assumptions and Limitations	17	TABLE 8	Row no 24
34	145 c	Changes from previous period in methods and assumptions	17	TABLE 8	Row no 25
35	Para 146	Asset Liability Matching Strategies	27	Appendix E, Article 9	
36	Para 147(a)	Description of Funding arrangements and Funding Policy	14	TABLE 5	Row no 10
37	Para 147(b)	"Expected Contributions to the plan for the			
38	Para 147(C)	Next annual reporting period."	14	TABLE 5	Row no 12
39	Para 147(C)	Weighted average duration of the D B O	14	TABLE 5	Row 14

26 APPENDIX I GLOSSARY

Actuarial Accrued Liability: The portion of the present value of prospective benefits allocated to service before the valuation date in accordance with the actuarial cost method.

Actuarial Cost Method**:** Sometimes called "funding method," a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension/Gratuity plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortisation of the unfunded actuarial accrued liability.

Actuarial Gain or Loss**:** The actuarial loss is the excess of the plan's unfunded actuarial accrued liability on the valuation date over the unfunded actuarial accrued liability that would have resulted had all of the actuarial assumptions been realised. If the actuarial loss is less than zero, it is called an actuarial gain. From one plan year to next, if the experience of the plan differs from that anticipated using the actuarial assumptions, an actuarial gain or loss occurs. For example, an actuarial gain would occur if the plan assets earned 12% for the year while the assumed rate of return used in the valuation was 8%. Other causes of actuarial gains or losses would include changes in actuarial assumptions and / or demographic changes in the population profile.

Actuarial Present Value**:** The current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future, The actuarial present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Adjustment for limit on net asset: A reduction of the net asset that may be necessary in situations where the company is unable to recover a surplus of the plan either through reduced contributions in the future or through refunds from the plan.

Balance Sheet Asset/(Liability)**:** The sponsor's balance sheet asset/(liability) entry, the Net recognized amount, is the sum of the cumulative excess of contributions to the plan over net Annual Expense and other plan-related charges to income due either to business combination or accelerated recognition. The difference between this account and the Funded Status is the un-recognized net loss/(gain) unvested prior service costs [and net transition obligation.]

Current Service Cost: *(component of expense)***.** The actuarial present value of benefits attributed by the gratuity/pension benefit formula to services rendered by employees during that period based on assumptions as to future compensation levels. The interest rate used in determining the present **v**alue is the discount rate.

Curtailment**:** An event that significantly reduces the expected years of future service of present employees or eliminates for a significant number of employees the accrual of defined benefits for some or all of their future services

Deficit or surplus: The excess of the present value of the obligation over plan assets.

Discount Rate: Also referred to as the "settlement rate," the discount rate represents the employer's estimate (as of the valuation date) of the interest rate at which pension benefits could be effectively settled. Assumed discount rates are used in the measurement of the present value of the obligation.

Expected Return on Assets: The expected return on plan assets over the accounting Period, based on an assumed rate of return

Expected Long-Term Rate of Return on Plan Assets: An assumption as to the rate of return on plan assets reflecting the average rate of earnings expected on the funds invested or to be invested to provide for the benefits included in the projected benefit obligation. This assumption is used to determine the expected return on assets for purposes of IND AS (19) pension expense.

Expense recognized in balance sheet**:** The amount recognised in an employer's financial statements as the cost of a pension plan for a period, pursuant to IND AS (19). Components of expense are current service cost, interest cost, and expected return on plan assets along with settlement and curtailment charges (if any).

Fair value of plan assets: The assets out of which the obligations have to be settled, measured at their market value.

Funded Status: This is the excess/(shortfall) of the fair value of plan assets over the Plan Liability.

Interest Cost:(*component of net periodic Gratuity/Pension cost)***.** The increase in the present value of obligation due to passage of time or the increase in the Plan liability over the accounting period due to interest (the time value of money)

Contd………………

Net Periodic Benefit Cost: This is the profit and loss charge for the accounting period, *under IND AS (19)* and comprises the sum of the service and net interest costs, plus amortized actuarial gain /Loss.

***Other Comprehensive Income*:** Other comprehensive income comprises items of income and expense (including reclassification adjustments) that is not recognized in profit or loss as required or permitted by other IND AS 19.

***Past Service Cost*:** Plan amendments often include provisions that grant increased benefits based on services rendered in prior periods. These provisions give rise to past service costs.

Plan Liability: This quantity is the discounted present value of all benefits attributed by the plan's benefit formula to service rendered prior to the measurement date. It is measured using an assumption as to future pay levels.

Present Value: Sometimes called "actuarial present value," the current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future, The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

***Present value of the Obligation*:** The actuarial present value as of a date of all benefits attributed by the pension benefit formula to employee service rendered before that date. The Present value of obligation is defined in AS 15 and is measured based on the discount rate and other assumptions used for accounting disclosure purposes. The present value of the obligation is measured using assumptions as to future compensation levels and increases in maximum benefit limitations (if applicable). The interest rate used in determining the present value is the discount rate.

Remeasurements of the net defined benefit liability (asset) comprise:

(a) Actuarial gains and losses;

(b) The return on plan assets, excluding amounts included in net interest on the net defined benefit liability (asset); and

(c) Any change in the effect of the asset ceiling, excluding amounts included in net interest on the net defined benefit liability (asset).

Service Cost: It has the following components.

A) This is the discounted present value of benefits attributed by the plan's benefit formula to services rendered by employees during the accounting period. It is measured using an assumption as to future pay levels.

b) Past service cost: which is the change in the present value of the defined benefit obligation for employee service in prior periods, resulting from a plan amendment (the introduction or withdrawal of, or changes to, a defined benefit plan) or a curtailment (a significant reduction by the entity in the number of employees covered by a plan); and

***Settlement*:** A transaction that is irrevocable relieves the employer (or the plan) of primary responsibility for a pension benefit obligation and eliminates significant risks related to the obligation and the assets used to affect the settlement. The purchase of non-participating annuities or the payment of significant lump-sum payments to plan participants might constitute a settlement.

Termination Benefits: Benefits provided to employees in connection with their termination of employment at a specific time or under certain prescribed circumstances

***Unrecognized Net Gain or Loss*:** The cumulative net gain or loss that has not been recognised as a part of net periodic pension cost

Unrecognized Past Service Cost: That portion of past service cost that has not yet been recognised as part of expense is unrecognised past service cost.

ENDS.

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

4th Floor, Vidyut Bhawan
Bailey Road, Patna 800 021.

EMPLOYEES PENSION SCHEME MEASUREMENT REPORT

Disclosure as per IND AS 19 - Defined Benefit Plans

FOR THE PERIOD ENDING
March 31, 2024

SRINIVASAN NAGASUBRAMANIAN B.Sc., A.F.I.I., F.I.A.I., Dip. Manag.
Mem.No: 00144(1985)

MAY 30, 2024

Contd……

INDEX

1 PREAMBLE

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

(hereinafter called the "Company") has requested us to report on the financial position of the employees Projected Benefits Plan relating to Pension Scheme (Called "the Plan") Liabilities and ascertain the accounting expenses of it in accordance with IND AS 19 for the fiscal year/period ending on 31-03-2024keeping in view the provisions of

a) The Rules of the Scheme, salient features of which are given later.

b) Relevant Guidance Notes issued by the Institute of Actuaries of India which are currently in vogue

c) This report complies with Actuarial Practice Standard 27 (APS 27) as published by the Institute of Actuaries of India (IAI), which came into effect from 1 January 2018.

1.1 This report is provided subject to the terms set out herein and in the actuarial consulting & Non-disclosure agreement and the accompanying General Terms and Conditions of Business.

1.2 The results set out in this Report are based on our understanding of IND AS 19 and its application to the Plan. They have been evaluated for the specific requirements of IND AS 19 and should not be put to any other use or purpose. In particular this Report does not constitute a formal funding valuation of actuarial liabilities of the Scheme and does not present any recommendation of contributions or funding levels.

1.3 This Report is delivered solely for the Company's own use and for the definite and specific purposes indicated above. However, unless expressly agreed in writing with us, this report should not be disclosed nor provided to any other third party nor be used by the Company for any purpose other than what it is intended for.

1.4 The Company may give a copy of this Report available to its Auditors, in connection with the audit of is financial statements.

2 EXECUTIVE SUMMARY

THE TABLE BELOW SHOWS A SUMMARY OF THE KEY RESULTS FOR THE PERIOD ENDING 31-03-2024

DEFINED BENEFITS COST, P&L CHARGE FOR PERIOD ENDING 31-03-2024

1	CURRENT SERVICE COST		2,85,67,921
2	NET PERIODIC BENEFIT COST RECOGNISED IN P & L		9,24,39,428
3	REMEASUREMENTS RECOGNISED IN OTHE COMPREHENSIVE INCOME		22,30,51,843
		31-MAR-2023	31-MAR-2024
4	PRESENT VALUE OF DEFINED BENEFITS OBLIGATIONS(DBO)	2,06,59,46,027	2,29,99,69,619
5	FAIR VALUE OF THE PLAN ASSETS (FVA)	1,06,40,37,488	1,21,70,93,084
6	NET ASSETS/LIABILITIES RECOGNISED IN BALANCE SHEET	-1,00,19,08,539	-1,08,28,76,535

Current Service Cost represents the cost associated with the current fiscal year benefit accruals and the past service cost which the change in the DBO is resulting from changes in the benefit plan provisions for employee service in prior periods. Total Employer expense is the expense under IND AS 19 inclusive of Current Service Cost and net interest.

3 Sources of Information

3.1 In preparing this Report I have used and relied on the financial data as well as membership information supplied to me on the valuation date by the Company.

3.2 In preparing this Report I have relied on the completeness and accuracy of the Data and Information supplied to me and corroborated orally and in writing by or on behalf of the Company and its advisers. I have not completed any detailed validation checks on the information provided. I have however, carried out broad statistical checks for consistency.

3.3 In particular I would like to mention that the details of Information on Assets, Plan provisions, amendments, Contributions and Benefits Payments, membership data and movements thereon from start of the period of investigations to the end of the period have been taken as provided by the company.

3.4 **Completeness Check**

We have received the following key information on the valuation date; Date of Birth (DOB), date of joining service (DOJ) and eligible salary as on the valuation date (DOV) for all the permanent employees of the company; We have not done any audit of the company's records and assumed that the data includes all eligible employees of the Co. We have checked that there are no missing fields in the data received and where they are missing we communicate and get full information.

3.5 **Reasonableness & Consistency Checks**

Cases where DOB is more than DOV or DOJ and where DOJ is more than DOV are identified and rectified; Errors of age at joining (like minors), age on DOV, current age below min and above max age, erroneous salary like very huge or very small. We reconciled the data with last year data to see the age, service and pay moved in a reasonable way

3.6 After completing the checks and any reconciliation of differences we are of the opinion that the data is sufficient to perform the exercise and does not have any material deficiency.

4 FULL PLAN INFORMATION

REFER PARA 139(A)(I) OF IND AS 19

This valuation reflects the provisions of the plan as at valuation date. Following is a summary of the major plan provisions used to determine the plan's financial position; It should not be used to determine individual plan benefits.

VALUATION DATE	31-MAR-2024
SPONSORING EMPLOYER	BIHAR STATE POWER TRANSMISSION COMPANY LIMITED
TYPE OF PLAN	DEFINED BENEFITS
COVERING	PENSION
ELIGIBILITY	ALL REGULAR EMPLOYEES
VESTING PERIOD	10 YEARS OF SERVICE
DEARNESS ALLOWANCE	AS PER SCALES INDICATE FROM TIME TO TIME
COMMUTATION	PERCENTAGE/RESTORATION PERIOD 33.33%/15 YEARS
FAMILY PENSION FOR SPOUSE	60 % OF ORIGINAL PENSION
PERIOD FOR ENHANCEMENT PENSION FOR SPOUSE	7 YEARS OR THE DATE WHEN THE SPOUSE WOULD HAVE ATTAINED AGE OF 67 YEAR WHICHEVER IS EARLIER
IN SERVICE PERIOD OF DEATH OF EMPLOYEE	ENHANCED FAMILY PENSION WILL BE PAYABLE UPTO 10 YEARS FROM THE DATE OF DEATH OF EMPLOYEE, W.E.F FROM 01-04-2007. ENHANCED FAMILY PENSION EQUIVALENT TO PENSION AMOUNT
SPECIAL CONDITION	50% LIMIT ON LAST SALARY SUBJECT TO 20 YEARS SERVICE AND PRO-RATA FOR LESSER SERVICE

5

IMPORTANT STATISTICS

(AS PER SEC 139 C OF IND AS 19)

VALUATION PERIOD	FROM : 31-03-2023 TO : 31-03-2024
NAME OF EVENT	STATUS
PLAN PROVISIONS	THERE IS NO PLAN INTRODUCTION OR CHANGES IN PROVISIONS DURING THIS PERIOD
BUSINESS COMBINATION	THERE IS NO BUSINESS COMBINATION DURING THIS PERIOD
DIVESTURE	THERE IS NO DIVESTURE DURING THE PERIOD
ACQUISITIONS	THERE IS NO ACQUISITION DURING THE PERIOD
TRANSFER	THERE IS NO TRANSFER DURING THE PERIOD
CURTAILMENT	THERE IS NO PLAN CURTAILMENT DURING THE PERIOD
PLAN SETTLEMENT	THERE IS NO PLAN SETTLEMENT DURING THE PERIOD
PLAN COMBINATION	THERE IS NO PLAN COMBINATION DURING THE PERIOD
PLAN DIVISION	THERE IS NO PLAN DIVISION DURING THE PERIOD
SPECIAL TERMINATION	THERE IS NO SPECIAL TERMINATION DURING THE PERIOD
LIABILITY FUNDING(PARA 147(A),IND AS 19)	A FUNDED PENSION PLAN
FUNDING METHODOLOGY(PARA 147(A),IND AS 19)	FUNDED THROUGH AN INSURANCE COMPANY
BENEFITS PAYMENTS	PAYMENTS THROUGH AN INSURANCE CO
SALARIES	THERE IS INCREASE IN AVERAGE SALARY DURING THE PERIOD
EMPLOYEE COUNT	THERE IS DECREASE IN EMPLOYEE COUNT DURING THE PERIOD

EVENTS POST VALUATION DATE	WE HAVE NOT BEEN NOTIFIED BY THE COMPANY NOR ARE WE AWARE OF ANY EVENTS SUBSEQUENT TO THE VALUATION DATE WHICH IN OUR OPINION WOULD HAVE MATERIAL IMPACT ON THE RESULTS OF THE VALUATION.

6 CERTIFICATION

6.1 The assumptions and methodology used in compiling this Report are consistent with our understanding of IND AS 19. The Pension scheme is treated as a post-employment benefit under Ind AS 19 and the actuarial gains & losses are recognised immediately through Other Comprehensive Income (OCI) via retained earnings.

6.2 The discount rate is based on the market yields of Government bonds as on the valuation date. The term corresponds to a value of years which is the expected term of defined benefit obligation. The other assumptions should be chosen to reflect a best estimation of the future long-term experience.

6.3 The results are particularly sensitive to some assumptions, such as the discount rate, level of salary inflation, level of assumed price inflation and mortality. A decrease in the discount rate assumed or an increase in salary inflation will lead to an increase in reported cost.

6.4 A summary of the employee profile is given in **Appendix A.**

6.5 The key assumptions used in the valuations are set out in **Appendix B**

6.6 The approach used for setting the assumptions is given in **Appendix E & similar to use in prior year.**

6.7 The distribution of assets categories is set out in **Appendix C & asset liability matching strategies are provided in Appendix D.**

6.8 No allowance had been made for any corporate income tax. Similarly, all amounts in OCI are displayed on a pre-tax basis.

6.9 The methodology used in the calculations are set out in **Appendix F.**

6.10 The Items pertaining to Revised Schedule III of Companies Act 2013 is in Table 3 A.

6.11 Based on membership data and plan information provided to me as on the valuation date I have made full actuarial valuation as at the end of the date.

6.12 The full results of my calculations are set out in **Tables 1 to 9**.

6.13 I would be pleased to discuss this Report with you

Yours faithfully,

Srinivasan Nagasubramanian,

Fellow of the Institute of Actuaries of India.

Mem No: 00144 (1985).

MAY 30, 2024

7 AMOUNT TO BE RECOGNISED IN PROFIT & LOSS ACCOUNT NET PERIODIC BENEFIT COST RECOGNISED

PARA 120(A) AND 120(B) OF IND AS 19

TABLE 1

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR IND AS 19

EMPLOYEES PENSION SCHEME

Disclosure of employer expense for the period ending 31-03-2024

Local currency - Rupees

Expense Recognised In Income Statement

The following table summarises the components of net benefit expenses recognised in the P&L Account

A	Components of Employer expense		
	Service Cost	31-Mar-2023	31-Mar-2024
1	Current service Cost	2,56,61,114	2,85,67,921
2	Plan Amendment	0	0
3	Past service cost	0	0
4	Curtailment Cost/(Credit)	0	0
5	Settlement Cost/(Credit)	0	0
6	Total Service Cost	**2,56,61,114**	**2,85,67,921**
	Net Interest Cost		
7	Interest Expense on DBO	13,73,18,006	14,16,91,022
8	Interest (Income on Plan Asset)	-3,54,80,522	-7,78,19,515
9	Interest (income)on reimbursement rights	0	0
10	Interest expense on effect of (asset ceiling)	0	0
11	Total Net Interest	10,18,37,483	6,38,71,506
12	Immediate Recognition of (Gain)/Losses- Other Long Term Benefits	0	0
13	Cost of Termination Benefits/Acquisitions/Transfers	0	0
14	Administrative Expenses/Taxes/Insurance Cost/Exchange Rate cost	-0	-0
15	Amount not recognised as asset (Limit of Para64(b))	0	0
16	Defined Benefits cost included in P&L (including Para 59(b))	**12,74,98,598**	**9,24,39,428**

Discount Rate as per Para 144 of Ind As 19 7.22%

8 RE MEASUREMENT EFFECTS RECOGNIZED IN OTHER COMPREHENSIVE INCOME (OCI)

PARA 120 (C) AND PARA 141 (C) OF IND AS 19

TABLE 2

BIHAR STATE POWER

TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR IND AS 19

EMPLOYEES PENSION SCHEME

Net Asset/(Liability) Recognised in Balance Sheet on– 31-03-2024

Local currency - Rupees

The following Table gives the Funded Status and the amount recognised in the Balance Sheet for the Plan

A	Re measurement effects recognized in other comprehensive income (oci) (Para 57(d))		
		31-Mar-2023	31-Mar-2024
1	Actuarial (Gain) / Losses due to Demographic Assumption changes in DBO	0	0
2	Actuarial (Gain) / Losses due to Financial Assumption changes in DBO	-9,51,90,204	-10,12,89,282
3	Actuarial (Gain)/ Losses due to Experience on DBO	32,89,97,751	37,19,86,939
4	Return on Plan Assets (Greater) / Less than Discount rate	-60,14,28,190	-4,76,45,814
5	Return on reimbursement rights (excluding interest income)	0	0
6	Changes in asset ceiling /onerous liability (excluding interest Income)	0	0
7	Total actuarial (gain)/loss included in OCI { Ind As 19 Para 57(d)}	-36,76,20,643	22,30,51,843
	Defined Benefit Cost (Para 120)		
1	Cost Recognised in P&L (Ind As 19 para 57 c)	12,74,98,598	9,24,39,428
2	Re measurement Effect Recognised in OCI; Para 120 c	-36,76,20,643	22,30,51,843
3	Total Defined Benefit Cost (Para 120 a,b & c)	-24,01,22,045	31,54,91,270
4	Amount not Recognised as an Asset (limit in Para 64(b))	0	0
5	NET EXP	-24,01,22,045	31,54,91,270

Discount Rate as per Para 144 of Ind As 19 7.22%

9 AMOUNTS TO BE RECOGNISED IN BALANCE SHEET DETAILS OF PROVISION FOR PENSION

PARA 57 A,B AND PARA 63 AND 64

TABLE 3

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR IND AS 19

EMPLOYEES PENSION SCHEME

Net Asset/(Liability) Recognised in Balance Sheet on– 31-03-2024

Local currency - Rupees

The following Table gives the Funded Status and the amount recognised in the Balance Sheet for the Plan

A	Net Asset/(Liability) Recognised in Balance Sheet –		
		31-Mar-2023	31-Mar-2024
1	Present value of Funded Obligation	2,06,59,46,027	2,29,99,69,619
2	Fair Value of Plan Assets	1,06,40,37,488	1,21,70,93,084
3	Present value of Unfunded obligation		
4	Funded status [Surplus/(Deficit)] {Para 64(a)}	-1,00,19,08,539	-1,08,28,76,535
5	Unrecognised Past Service Costs	0	0
6	Amount not Recognised as an Asset (limit in Para 64(b))	0	0
7	Net Liability	-1,00,19,08,539	-1,08,28,76,535
8	Net Liability Recognised in balance sheet	-1,00,19,08,539	-1,08,28,76,535
Assumption on 31-03-2024			
Discount Rate as per Para 144 of Ind As 19 7.22%			

10 DETAILS OF CURRENT AND NON CURRENT PROVISION FOR PENSION

As PER Schedule 3 of Companies Act 2013

TABLE 3 A

BIHAR STATE POWER

TRANSMISSION COMPANY LIMITED

Actuarial measurements for IND AS 19

EMPLOYEES PENSION SCHEME

Current & Non Current Bifurcation 31-03-2024

Local currency - Rupees

The following Table gives Current and Noncurrent for the PVO and the Funded Status

A	Bifurcation Of Current & Non Current			
			31-Mar-2023	31-Mar-2024
1	Funded status [Surplus/(Deficit)]	Current	10,35,70,748	10,96,08,399
2		Noncurrent	89,83,37,791	97,32,68,136
3	Unfunded status [Surplus/(Deficit)]	Current		18,74,74,458
4		Noncurrent		2,11,24,95,161

11

CHANGES IN PRESENT VALUE OF DEFINED BENEFIT OBLIGATION AND RECONCILIATION THEREOF-IND AS 19 PARA 140

TABLE 4

BIHAR STATE POWER

TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR IND AS 19

EMPLOYEES PENSION SCHEME

A	Local currency - Rupees		
Change in DBO over the period ending on (Para 140(a)(ii) and 141)		31-Mar-2023	31-Mar-2024
1	Present value of DBO at beginning(opening)	1,98,29,15,255	2,06,59,46,027
2	Interest Cost	13,73,18,006	14,16,91,022
3	Current Service Cost	2,56,61,114	2,85,67,921
4	Prior Service Costs	0	0
5	Settlements	0	0
6	Benefits Pay-outs from plan	-31,37,55,895	-20,69,33,008
7	Benefit payments from employer(Para 141 g)	0	0
8	Acquisitions/Divestures/Transfer	0	0
9	Actuarial (Gains)/Loss	23,38,07,547	27,06,97,657
10	Present Value Of DBO at the ending period	2,06,59,46,027	2,29,99,69,619
Reconciliation of Opening & Closing of Plan Assets(Ind AS 19 Para 140(a) (i)			
1	Fair Value of Plan Assets at end of prior year	51,65,02,134	1,06,40,37,488
2	Difference in opening Value	0	0
3	Employer Contribution (Para 141 f)	22,43,82,537	23,45,23,274
4	Expected Interest income of assets	3,54,80,522	7,78,19,515
5	Employer direct benefit payments	0	0
6	Plan Participant's contributions (Para 141 f)	0	0
7	Transfer In / Acquisitions	0	0
8	Transfer Out / Divestures	0	0
9	Benefits Pay-outs from employer (Para 141 g)	0	0
10	Benefits Pay-outs from plan(Para 141 g)	-31,37,55,895	-20,69,33,008
11	Settlements By Fund Manager (Para 141 g)	0	0
12	Admin expenses /Taxes paid from plan assets	0	0
13	Effect of Change in Exchange rates(Para 141 e)	0	0
14	Insurance premiums for risk benefits	0	0
15	Actuarial gain/(Loss)	60,14,28,190	4,76,45,814
16	Fair Value of assets at the End	1,06,40,37,488	1,21,70,93,084
17	Actual Return on Plan Assets	63,69,08,712	12,54,65,329

12 INFORMATION REQUIRED UNDER IND AS19

Para 147 of Ind AS 19

TABLE 5

BIHAR STATE POWER

TRANSMISSION COMPANY LIMITED

Actuarial measurements for IND AS 19

EMPLOYEES PENSION SCHEME

Current & Non Current Bifurcation 31-03-2024

147-a	"The company has started funding the liability through the medium of an insurance company."&" Regular assessment is made by the insurance co of the increase in liability under certain assumptions"&" and contributions are being made to maintain the fund ."&" subject to credit risk of the insurance co & asset liability mismatch risk of the investments (Para 146)" the Company will be able to meet the past service liability on the valuation date that fall due during the next 1 year		
147-c	Weighted average duration of the D B O	15.00	15.00

	Information on the maturity profile of the liabilities given below	31-Mar-2023	31-Mar-2024
1	Projected Benefit Obligation	2,06,59,46,027	2,29,99,69,619
2	Accumulated Benefits Obligation	1,93,37,25,481	2,15,27,71,563

	FIVE YEAR PAYOUTS(Para 147 C)	31-Mar-2024	
		Discounted values / Present value	undiscounted values / Actual value
1	YEAR (I)	18,74,74,458	20,21,78,575
2	YEAR (II)	20,73,52,964	23,58,09,032
3	YEAR (III)	21,02,58,460	25,26,32,584
4	YEAR (IV)	21,22,16,826	26,86,27,972
5	YEAR (V)	21,24,83,231	28,34,80,765
6	ABOVE 5 YEARS	1,27,01,83,678	2,38,10,36,800

13

Amounts Recognized in Other Comprehensive Income

TABLE 6

BIHAR STATE POWER
TRANSMISSION COMPANY LIMITED

Actuarial measurements for IND AS 19

EMPLOYEES PENSION SCHEME

Amounts Recognized in Other Comprehensive Income For the period ending on 31-03-2024

Local currency - Rupees

The following Table gives the amounts Recognized in Other Comprehensive Income

A	Amounts Recognized in Other Comprehensive Income		
		31-Mar-2023	31-Mar-2024
1	Opening cumulative other comprehensive Income	81,57,93,947	44,81,73,305
2	Actuarial Loss / (Gain) On DBO	23,38,07,547	27,06,97,657
3	Actuarial Loss /(Gain) On Assets	-60,14,28,190	-4,76,45,814
4	Prior Service Cost (Credit)	0	0
5	Amortization Actuarial Loss /(Gain)	0	0
6	Amortization Of Prior Service Cost	0	0
7	Net increasing in OCI	-36,76,20,643	22,30,51,843
8	Total Recognised In Other Comprehensive Income	44,81,73,305	67,12,25,147

14 RECONCILIATION OF NET BALANCE SHEET LIABILITY

TABLE 7

BIHAR STATE POWER
TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR IND AS 19
EMPLOYEES PENSION SCHEME

Reconciliation Of Net Balance Sheet Liability For the period ending on 31-03-2024

Local currency - Rupees

The following Table gives the Reconciliation of Net Balance Sheet Liability

A	Reconciliation Of Net Balance Sheet Liability		
		31-Mar-2023	31-Mar-2024
1	Net Balance sheet Asset/(Liability) Recognised at beginning	-1,46,64,13,121	-1,00,19,08,539
2	Amount Recognised In Accumulated Other Comprehensive Income/Loss at the beginning of the period	-81,57,93,947	-44,81,73,305
3	(Accrued)/ Prepaid benefit cost(Before adjustment) at beginning the of period	-65,06,19,173	-55,37,35,234
4	Net Periodic Benefit (Cost) / Income for the period excluding Para 64 (b)	-12,74,98,598	-9,24,39,428
5	Employer Contribution	22,43,82,537	23,45,23,274
6	Employers Direct Benefits Payments	0	0
7	Amount not recognised as an asset (Limit in Para 64(b))opening figure of 31-Mar-18	-0	-0
8	(Accrued)/ Prepaid benefit cost(Before Adj) at end of period	-55,37,35,234	-41,16,51,387
9	Amount Recognised In Accumulated Other Comprehensive Income/Loss at the end of the period	-44,81,73,305	-67,12,25,147
10	Acquisition / Divestures/ Transfer	0	0
11	Effect of the Limit in Para 64(b)	-0	-0
12	Net Balance Sheet Asset/Liab Recognised at the end of the period	-1,00,19,08,539	-1,08,28,76,535

15 SENSITIVITY ANALYSIS

INFORMATION REQUIRED UNDER PARA 145 OF IND AS 19

TABLE 8

BIHAR STATE POWER

TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR IND AS 19

EMPLOYEES PENSION SCHEME

SENSITIVITY ANALYSIS FOR THE PERIOD ENDING 31-03-2024

Local currency - Rupees

145 A	**How the DBO would have been affected by 100 basis points changes in the actuarial assumptions namely discount rates, salary growth, Attrition & Mortality is shown below**

A	**INFORMATION REQUIRED UNDER IND AS 19**			31-Mar-2024
		% increase in DBO	**LIABILITY**	**INCREASE IN DBO**
1	Discount Rate +100 Basis Points	-4.35%	2,19,99,20,940	-10,00,48,678
2	Discount Rate -100 Basis Points	4.58%	2,40,53,08,227	10,53,38,609
3	Salary Growth +100 Basis Points	2.68%	2,36,16,08,804	6,16,39,186
4	Salary Growth -100 Basis Points	-2.12%	2,25,12,10,263	-4,87,59,356
5	Attrition Rate +100 Basis Points	2.40%	2,35,51,68,889	5,51,99,271
6	Attrition Rate-100 Basis Points	-2.29%	2,24,73,00,314	-5,26,69,304
7	Mortality Rate 10% Up	0.03%	2,30,06,84,909	7,15,291

145 B	**We have used P.U.C method. If an employee's service in later years will lead to a materially higher level of benefit than in earlier years, these benefits are attributed on a straight-line basis. The limitations are that in assessing the change other parameters are kept constant. As some of the assumptions may be correlated, it is unlikely that changes in assumptions will occur in isolation of one another.**
145 C	**There is no change from the previous period in the methods and assumptions used in the preparation of above analysis, except that the base rates have changed**

16

APPENDIX A

SUMMARY OF EMPLOYEE PROFILE

TABLE A

BIHAR STATE POWER

TRANSMISSION COMPANY LIMITED

ACTUARIAL MEASUREMENTS FOR IND AS 19

EMPLOYEES PENSION SCHEME

ACTIVE MEMBERS

A	AS AT			
		31-Mar-2023	31-Mar-2024	INCREASE
1	Number of Employees	424	401	-5.42%
2	Employees Total Salary	3,52,71,972	3,93,67,725	11.61%
3	Average Salary	83,189	98,174	18.01%
4	Average Past Service	19.89	19.98	0.09
5	Average Age of Employee	51.30	51.82	0.52
6	Number of Pensioners	1,080	1,075	-0.46%
7	Average Age of Pensioners	70.41	70.47	0.06
8	Number of Family Pensioners	497	494	-0.60%
9	Average Age of Pensioners	67.54	68.50	0.96

17

APPENDIX B

KEY ASSUMPTIONS

One of the principal assumptions is the discount rate, which should be based upon the market yields available on Government bonds at the accounting date with a term that matches that of the liabilities. The financial and demographic assumptions employed for the calculations as at the end of previous period and current period are as follows

A	Assumption		
Para 76 & 144 of Ind AS 19		31-Mar-2023	31-Mar-2024
1	Discount rate	7.52%	7.22%
2	Expected return on assets	7.52%	7.22%
3	Salary Escalation	3.00%	3.00%
4	Future DA Increase	As per Government Rule*	As per Government Rule*
5	Attrition Rate	2.00%	2.00%
*For calculation purpose we have taken 6% overall increase in Salary			
Mortality - Indian Assured Lives Mortality (2012-14) (Ultimate)			

A SAMPLE PICK FROM THIS TABLE AS BELOW

Age	Mortality
20	0.000924
30	0.000977
35	0.001202

Disability: Provided under demographic assumptions

Notes:

1 All the assumptions have been set following discussions with the company in this regard;

2 We understand that the assumption of future salary increases (which has been promotion productivity gains and other relevant factors, such as supply and demand in the employment market.

Contd…

18

APPENDIX C

Major Categories of Plan Asset As a percentage of the fair value

Para 142,Ind AS 19

BIHAR STATE POWER

TRANSMISSION COMPANY LIMITED

EMPLOYEES PENSION SCHEME

ASSETS DISTRIBUTION

A	AS AT		
	PERCENTAGES	31-Mar-2023	31-Mar-2024
1	Govt. Securities(Central State)	0.00%	0.00%
2	High-quality Corporate Bonds	0.00%	0.00%
3	Equity shares of Listed Cos	0.00%	0.00%
4	Property	0.00%	0.00%
5	Special deposits	0.00%	0.00%
6	Others (other investments, bank balance etc)	0.00%	0.00%
7	Assets Under Insurance Schemes	100.00%	100.00%
8	Total	100.00%	100.00%

Appendix D

19

Asset Liability Matching Strategies
Para 146, Ind AS 19

Below Para is applicable

Insurer Administered Fund

The company has funded the liability with the insurance company. The entire investible assets are managed by the fund managers of the Insurance company and the Asset Values as informed by the Insurance Company has been taken for the valuation purpose. The policy, thus, mitigates the liquidity risk. However, being a cash accumulation plan, the duration of assets is shorter compared to the duration of liabilities. Thus, the Company is exposed to movement in interest rate (in particular, the significant fall in interest rates, which should result in a increase in liability without corresponding increase in the asset).

Appendix E

Actuarial Assumptions

I have used actuarial assumptions selected by the Company. Any Changes in actuarial assumptions, methods or plan provisions since the prior valuations are described in this report. The assumptions used in compiling this report are consistent with the requirements of IND AS19. The company was advised on assumptions as per the requirements under IND AS19 & APS 27. Based on the information provided to us, we believe that the actuarial assumptions are reasonable for the purposes described in the report.

FOR SALARY ESCALATION

In projecting the salary increases there are three factors to consider - first is inflation level leading to a general change in salary level. The other two are career progression of the employees & productivity gains for the organization. Where appropriate the salary increases, a periodic salary experience study with the client's data will be conducted as an input for the client, when setting the assumption.

For this company to study past career progression we have analysed the companies' salary escalation with previous 1 year based on the data given by the company.

Demographic Assumptions:

FOR ATTRITION / WITHDRAWAL

Withdrawal rates, both at early durations of service and near retirement date, not only have 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. We examine these rates and any other information available and use best possible judgment to cater to the long term nature of the actuarial estimates being is carrying out.

THE FOLLOWING DEMOGRAPHIC ASSUMPTIONS WERE USED IN VALUING THE LIABILITIES AND BENEFITS UNDER THE PLAN.

Mortality:	Indian Assured Lives Mortality (2012-14) Ultimate
Disability:	5% of mortality rate rates
Withdrawal:	2%
Retirement age:	60

TABLE OF SAMPLE RATES

Mortality			Disability	
Male	Female	Age	Male	Female
0.0924%	0.0924%	20	0.0046%	0.0046%
0.0931%	0.0931%	25	0.0047%	0.0047%
0.0977%	0.0977%	30	0.0049%	0.0049%
0.1202%	0.1202%	35	0.0060%	0.0060%
0.1680%	0.1680%	40	0.0084%	0.0084%
0.2579%	0.2579%	45	0.0129%	0.0129%
0.4436%	0.4436%	50	0.0222%	0.0222%
0.7513%	0.7513%	55	0.0376%	0.0376%
1.1162%	1.1162%	60	0.0558%	0.0558%

SAMPLE RATES CONTD…

Mortality		Disability		
Male	Female	Age	Male	Female
1.5932%	1.5932%	65	0.0797%	0.0797%
2.4058%	2.4058%	70	0.1203%	0.1203%
3.8221%	3.8221%	75	0.1911%	0.1911%
6.1985%	6.1985%	80	0.3099%	0.3099%
10.0979%	10.0979%	85	0.5049%	0.5049%
16.3507%	16.3507%	90	0.8175%	0.8175%
25.9706%	25.9706%	95	1.2985%	1.2985%
39.7733%	39.7733%	100	1.9887%	1.9887%

Withdrawal		Age	Retirement	
2.00%	2%	20	0%	0%
2.00%	2%	25	0%	0%
2.00%	2%	30	0%	0%
2.00%	2%	35	0%	0%
2.00%	2%	40	0%	0%
2.00%	2%	45	0%	0%
2.00%	2%	50	0%	0%
2.00%	2%	55	0%	0%
2.00%	0%	60	0%	0%
0.00%	0%	65	100%	100%
0.00%	0%	70	100%	100%
0.00%	0%	75	100%	100%
0.00%	0%	80	100%	100%
0.00%	0%	85	100%	100%
0.00%	0%	90	100%	100%
0.00%	0%	95	100%	100%
0.00%	0%	100	100%	100%

20.1 Unit wise Pension liability as on 31-03-2024

S.NO	UNIT	LIABILITY
1	ON ROLL CO	1,03,43,42,575
2	RETIREE CO	1,20,12,42,878
3	FAMILY PENSION CO	6,43,84,166
	TOTAL	2,29,99,69,619

15.2 EXPECTED CONTRIBUTION FOR THE NEXT ANNUAL REPORTING PERIOD

a)	Service cost	3,14,24,713
b)	Net Interest cost	7,81,83,686
c)	Expected Expense for the next annual reporting period	10,96,08,399

21 APPENDIX F: THE METHODOLOGY

(PARA65- 67-70 OF IND AS 19)

Benefits obligations are estimated using the projected Unit Credit method. Under this method each participant's benefits under the plan are attributed to years of service, taking into consideration future salary increase and the plan's benefit allocation formula. If an employee's service in later years will lead to a materially higher level of benefit than in earlier years, these benefits are attributed on a straight-line basis. A description of the calculation follows:

- An individual's estimated attributed benefits for valuation purposes related to a particular separation date (e.g. expected date of retirement, leaving service or death) is the benefit described under the plan based on credited service as at the measurement date, but determined using the projected salary that would be used in the calculation estimate of the benefit on the expected separation date.

- The benefit attributed to an individual's service during a plan year is the excess of the attributed benefit for valuation purposes at the end of the plan year over the attributed benefit for valuation purposes at the beginning of the plan year. Both attributed benefits are estimated from the same projections to the various anticipated separation dates.

- An individual's estimated benefit obligation is the present value of the attributed benefit for valuation purposes at the beginning of the year, and the service cost is the present value of the benefit attributed to the year of service in the plan yea. If multiple decrements are used, the benefit obligation and the service cost for an individual are the sum of the component benefit obligations and service costs associated with the various anticipated separation dates. Such benefit obligations and service costs reflect the estimated attributed benefits and the probability of the individual separating on those dates.

In all cases, the benefit obligation is the total present value of the individual's attributed benefits for valuation purposes at the measurement date, and the service cost is the total present value of the individual's benefits attributable to service during the year. If multiple decrements are used, the present values take into account the probability of the individual leaving employment at the various anticipated separation dates.

22 APPENDIX G: COMMENTARY

1.DESCRIPTION OF PLAN CHARACTERISTICS AND ASSOCIATED RISKS:

(PARA 135 A AND PARA 139 B;IND AS19)

The Pension scheme is a final salary defined benefit plan, that provides for a lumpsum payment at the time of seperation; based on scheme rules the benefits are calculated on the basis of last drawn salary and the period of service at the time of seperation and paid as lumpsum. There is a vesting period of 5 years. The design entiles the following risks that affect the liabilities and cash flows,

1. INTEREST RATES RISK :

The defined benefit obligation calculated uses a discount rate based on government bonds. If bond yields fall, the defined benefit obligation will tend to increase.

2. SALARY INFLATION RISK:

Higher than expected increases in salary will increase the defined benefit obligation.

3. RETIREMENT AGE:

It should be noted that in case of employees above retirement age, for the purpose of valuation it is assumed they will retire immediately & benefit is considered up to actual retirement age.

4. DEMOGRAPHIC RISKS:

This is the risk of volatility of results due to unexpected nature of decrements that include mortality attrition, disability and retirement. The effects of this decrement on the DBO depend upon the combination salary increase, discount rate, and vesting criteria and therefore not very straight forward. It is important not to overstate withdrawal rate because the cost of retirement benefit of a short caring employees will be less compared to long service employees.

5. ASSET LIABILITY MISMATCH.

This will come into play unless the funds are invested with a term of the assets replicating the term of the liability.

6. ACTUARIAL RISK:

It is the risk that benefits will cost more than expected. This can arise due to one of the following reasons
Adverse Salary Growth Experience: Salary hikes that are higher than the assumed salary escalation will result into an increase in Obligation at a rate that is higher than expected.

Variability in mortality rates: If actual mortality rates are higher than assumed mortality rate assumption than the Pension benefits will be paid earlier than expected. Since there is no condition of vesting on the death benefit, the acceleration of cash flow will lead to an actuarial loss or gain depending on the relative values of the assumed salary growth and discount rate.

Variability in withdrawal rates: If actual withdrawal rates are higher than assumed withdrawal rate assumption than the Pension benefits will be paid earlier than expected. The impact of this will depend on whether the benefits are vested as at the resignation date

7. INVESTMENT RISK:

For funded plans that rely on insurers for managing the assets, the value of assets certified by the insurer may not be the fair value of instruments backing the liability. In such cases, the present value of the assets is independent of the future discount rate. This can result in wide fluctuations in the net liability or the funded status if there are significant changes in the discount rate during the inter-valuation period.

8. LIQUIDITY RISK:

Employees with high salaries and long durations or those higher in hierarchy, accumulate significant level of benefits. If some of such employees resign / retire from the company there can be strain on the cash flows.

9. MARKET RISK:

Market risk is a collective term for risks that are related to the changes and fluctuations of the financial markets. One actuarial assumption that has a material effect is the discount rate. The discount rate reflects the time value of money. An increase in discount rate leads to decrease in Defined Benefit Obligation of the plan benefits & vice versa. This assumption depends on the yields on the corporate / government bonds and hence the valuation of liability is exposed to fluctuations in the yields as at the valuation date.

10. LEGISLATIVE RISK/REGULATORY RISK:

Legislative risk is the risk of increase in the plan liabilities or reduction in the plan assets due to change in the legislation / regulation. The government may amend the Payment of Pension Act thus requiring the companies to pay higher benefits to the employees. This will directly affect the present value of the Defined Benefit Obligation
And the same will have to be recognized immediately in the year when any such amendment is effective.

2.(A)DESCRIPTION OF REGULATORY FRAME WORK

(PARA 139 A (II) OF IND AS 19)

While the payment of Pension is statutory and provided by the Payment of Pension Act 1972 and subsequent amendments; there are no statutory minimum funding requirement for Pension plans in India. However the companies can setup a separate irrevocable trust and start funding for the Pension liability and avail of tax exemption under the income tax act. By this the security of Pension benefits to the employees is ensured.

2.(B) DESCRIPTION OF ENTITY'S RESPONSIBILITIES FOR GOVERNANCE

(PARA 139(A)(III) OF IND AS 19)

The trustees of the Trust created for the plan becomes responsible for the governance of the plan.

3.ON ASSUMPTIONS:

To prepare this report, actuarial assumptions as agreed by the Company, are used to select a single scenario from the range of possibilities. The results of that single scenario are included in this report. However, the future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material. In addition, different assumptions or scenarios may also be within the reasonable range and results based on those assumptions would be different. Actuarial assumptions may also be changed from one valuation to the next because of mandated requirements, plan experience, changes in expectations about the future and other factors.

1 The effects of Morbidity and Withdrawals(Attrition) have been factored by constructing a multiple decrement table on assumption of Mortality Table

4.Current& Non –Current Liabilities:

(Not specified under Ind AS 19; sec 133)

Regarding funded post-employment benefit obligations, amount due for payment to the fund created for this purpose within twelve months is treated as "current" liability. This is as per Institute of Chartered Accountants circular date December 2011.Guidance Note on the revised schedule 3 of the companies Act, 2013. Page 18, Sec 7.3.C reproduced below

Regarding funded post-employment benefit obligations, amount due for payment to the fund created for this purpose within twelve months is treated as "current" liability. Regarding the unfunded post-employment benefit obligations, a company will have settlement obligation at the balance sheet date or within twelve months for employees such as those who have already resigned or are expected to resign (which is factored for actuarial valuation) or are expected to die according to mortality table used (which is factored for actuarial valuation) or are due for retirement within the next twelve months from the balance sheet date.. Thus, the amount of obligation attributable to these employees is a "current" liability. The remaining amount attributable to other employees, who are likely to continue in the services for more than a year, is classified as "non-current" liability. Normally the actuary should determine the amount of current & non - current liability. Normally the actuary should determine the amount of current & non- current liability for unfunded post-employment benefit obligation based on the definition of current and Non- current assets and liabilities in the Revised schedule 3.

This is shown in our table 3A under Funded status, row No2. Regarding the unfunded postemployment benefit obligations, a company will have settlement obligation at the Balance Sheet date or within twelve months for employees such as those who have already resigned or are expected to resign (which is factored for actuarial valuation) or are due for retirement within the next twelve months from the Balance Sheet date. Thus, the amount of obligation attributable to these employees is a current Liability. This is shown under Line 1 of Table 3A.

5.Discontinuance Pension

This refers to the payment of Pension Liability on the valuation Date in case the company discontinues its commercial operations. It is the sum total of Pension payable to each and every employee including those with less than 5 years of service.

6.Termoffutureliability

It is a weighted average term, the liabilities falling due in each year being the weights..
The discount rate is based on the term of the future liability. Term of the future liability is equal to term used in the bond rate table, for determining the discount rate.

Duration (D) = $\sum t v^t CF_t / P$, where

P = $\sum v^t CF_t$

7.Determination of Contribution Rates :

This can be done by the companies by spreading the balance Actuarial liability as on the valuation Date
(i.e. Total Benefit Obligation taking into account the total service of the employees from date of joining to retirement less the current asset for the Plan) over the balance expected service of the employees as a group.

The annual contribution rate to meet future service liability is calculated using the Expression below:

(1) Actuarial Value of Total Service Liability Less Assets Value: TBO-A

(2) Actuarial Value of One Percent of future salaries over the balance Expected service time.1%C

(3) Uniform Future Annual Contribution Rate (%) = (1)/(2)= (TBO-A)/1%C

8.Understanding Actuarial Gains and Losses.

Possible reasons for Actuarial Gains or Losses on Plan Liabilities

1. If the actual attrition, retirement or mortality experience turns out to be higher or lower than expected based on the assumptions made at the start of the accounting period, it would lead to an Actuarial Gain or Loss on Plan Liabilities.
2. If the salary increases are higher or lower than expected based on the assumption made at the start of the accounting period, it would lead to an Actuarial Gain or Loss on Plan Liabilities.
3. If the actuarial assumptions of salary increase, attrition rate and discount rate change from one valuation year to another, it may lead to Actuarial Gain or Loss on Plan Liabilities.
4. Any significant changes in the demographic profile may also lead to Actuarial Gain or Loss on Plan Liabilities such as a large growth of the employee count from new joiners.
5. If the actual leave availment from the current year entitlement is different than the Availment Pattern assumed at the start of the accounting period, it may leave to Actuarial Gain or Loss on Plan Liabilities.

Possible reasons for experience Gains or Losses on Plan Assets;

1. Return on plan assets greater /(lesser) than discount rate. For example, if the discount rate was 8% and the fund actually earned 7%, it would result in an actuarial loss on assets.

9.Asset Liability Matching Strategies

(Para 146, Ind as 19)

The Company has purchased insurance policy, which is basically a year-on-year cash accumulation plan in which the interest rate is declared on yearly basis and is guaranteed for a period of one year. The insurance Company, as part of the policy rules, makes payment of all Pension out goes happening during the year (subject to sufficiency of funds under the policy). The policy, thus, mitigates the liquidity risk. However, being a cash accumulation plan, the duration of assets is shorter compared to the duration of liabilities. Thus, the Company is exposed to movement in interest rate (in particular, the significant fall in interest rates, which should result in a increase in liability without corresponding increase in the asset).

23 APPENDIX H INDEX OF IND AS 19

S.No	SECTION/PARA OF IND AS 19	HEADING	PAGE NO	TABLE NO / ARTICLE NO	Row
1	Para 57 a i, ii, iii	Accounting for Defined Benefit Plan	11	3	Full Table
2	Para 57 b	Effect of Asset ceiling	9,11	1	Table 1--Row 9, Table 3-- Row 6
3	Para 57 c	Determining amounts to be recognized in P/L	9	1	Full Table
4	Para 57 d	Re measurements in OCI	10	2	Full Table
5	Para 57 d	Re measurements in OCI	13	4	Table 4A Row11, Table 4B Row 11
6	Para 63 and 64	Balance Sheet	11	3	Full Table
7	Para 64 b	Effect of Asset ceiling	9,11	1 & 3	Table 1--Row 9, Table 3-- Row 6
8	Para 120	Total Cost Recognized	10	2	Full Table
9	Para 120 (a) and 120 (b)	Components of defined benefit costs	9	1	Full Table
10	Para 120 (C)	Re measurements in OCI	10	2	Row 7
11	Para 135 (a)	Characteristics of Defined Benefits Plan and Risks associated with that	24	Appendix F	1.5 page
12	Para 135 (b)	Explanation of amounts in financial statements	9--13	1,2,3,3A and 4	full Table
13	Para 135 (c)	Amount, timing and uncertainty of future cash flows	14,17	5,9	Full Table
14	Para 139 a (i)	Nature of Benefits provided by plan	6	Article 5	Full Table
15	Para 139 a (ii)	Description of the regulatory framework under which the plan operates	26	2A	
16	Para 139 a (iii)	Description of the entities responsibility for Governance	26	2B	
17	Para 139 b	Risk Exposures	25	Appendix F	1.5 page
18	Para 140(a)(i)	Reconciliation of the Fair Value of Plan Assets	13	4--B	Lower Part of 4
19	Para 140(a)(ii)	Reconciliation of the Present Value of Obligation	13	4--A	Upper Part of 4
20	Para 140(a)(iii)	Effect of Asset ceiling	9,11	1	Table 1--Row 9, Table 3-- Row 6
21	Para 141, a	Service cost,	13	4--A	Row 2
22	Para 141 b	net interest cost	9	1	Row 10
23	Para 141 b	net interest cost	13	4--A,4--B	4--A, Row 2;4--B, Row 2
24	Para 141 c	Re measurements	10	2	Row 7
25	Para 141 c	Re measurements(actuarial Gains /Losses)	13	4	4--A Row 11 and 4--B, Row 11
26	Para 141 e	the effect of changes in foreign exchange rates.	13	4	4B ,Row 9
27	Para 141 f	Contributions to the plan, showing separately those by the employer and by plan participants.	13	4	4B ,Row 3a, 3b
28	Para 141 g	Payments from the plan, showing separately the amount paid in respect of any settlements.	13	4	4B, Row 5,6,7
29	Para 141 h	The effects of business combinations and disposals.	13	4	4--A, Row 7
30	Para 142	Major Categories of Plan Asset As a percentage of the fair value	20	APPENDIX C	Full table
31	Para 144	Principal Actuarial Assumptions	19&21	Appendix B and Appendix D	Full Table
32	145 A	Sensitivity analysis	17	TABLE 8	row no 16 to 22
33	145 B.	Methods, Assumptions and Limitations	17	TABLE 8	Row no 24
34	145 c	Changes from previous period in methods and assumptions	17	TABLE 8	Row no 25
35	Para 146	Asset Liability Matching Strategies	27	Appendix F, Article 9	
36	Para 147(a)	Description of Funding arrangements and Funding Policy	14	TABLE 5	Row no 10
37	Para 147(b)	"Expected Contributions to the plan for the			
38	Para 147(C)	Next annual reporting period."	14	TABLE 5	Row no 12
39	Para 147(C)	Weighted average duration of the D B O	14	TABLE 5	Row 14

24 APPENDIX I: GLOSSARY

Actuarial Accrued Liability. The portion of the present value of prospective benefits allocated to service before the valuation date in accordance with the actuarial cost method.
Actuarial Cost Method.Sometimes called "funding method," a particular technique used by actuaries for establishing the amount and incidence of the annual actuarial cost of pension/Pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the annual contribution to the plan comprises the normal cost and an amount for amortisation of the unfunded actuarial accrued liability.
***Actuarial Gain or Loss*. ** The actuarial loss is the excess of the plan's unfunded actuarial accrued liability on the valuation date over the unfunded actuarial accrued liability that would have resulted had all of the actuarial assumptions been realised. If the actuarial loss is less than zero, it is called an actuarial gain. From one plan year to next, if the experience of the plan differs from that anticipated using the actuarial assumptions, an actuarial gain or loss occurs. For example, an actuarial gain would occur if the plan assets earned 12% for the year while the assumed rate of return used in the valuation was 8%. Other causes of actuarial gains or losses would include changes in actuarial assumptions and / or demographic changes in the population profile.
***Actuarial Present Value*.** The current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future, The actuarial present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
Adjustment for limit on net asset. A reduction of the net asset that may be necessary in situations where the company is unable to recover a surplus of the plan either through reduced contributions in the future or through refunds from the plan.
Balance Sheet Asset/(Liability). The sponsor's balance sheet asset/(liability) entry, the Net recognized amount, is the sum of the cumulative excess of contributions to the plan over net Annual Expense and other plan-related charges to income due either to business combination or accelerated recognition. The difference between this account and the Funded Status is the un-recognized net loss/(gain) unvested prior service costs [and net transition obligation.]
Current Service Cost*.(component of expense)***.**The actuarial present value of benefits attributed by the Pension/pension benefit formula to services rendered by employees during that period based on assumptions as to future compensation levels. The interest rate used in determining the present value is the discount rate.
***Curtailment*.** An event that significantly reduces the expected years of future service of present employees or eliminates for a significant number of employees the accrual of defined benefits for some or all of their future services
***Deficit or surplus*.**The excess of the present value of the obligation over plan assets.
Discount Rate. Also referred to as the "settlement rate," the discount rate represents the employer's estimate (as of the valuation date) of the interest rate at which pension benefits could be effectively settled. Assumed discount rates are used in the measurement of the present value of the obligation.
***Expected Return on Assets*.** The expected return on plan assets over the accounting
Period, based on an assumed rate of return
Expected Long-Term Rate of Return on Plan Assets. An assumption as to the rate of return on plan assets reflecting the average rate of earnings expected on the funds invested or to be invested to provide for the benefits included in the projected benefit obligation. This assumption is used to determine the expected return on assets for purposes of IND AS (19) pension expense.
***Expense recognized in balance sheet*.** The amount recognised in an employer's financial statements as the cost of a pension plan for a period, pursuant to IND AS (19). Components of expense are current service cost, interest cost, and expected return on plan assets along with settlement and curtailment charges (if any).
Fair value of plan assets: The assets out of which the obligations have to be settled, measured at their market value.
Funded Status. This is the excess/(shortfall) of the fair value of plan assets over the Plan Liability.
Interest Cost:(*component of net periodic Pension/Pension cost)***.** The increase in the present value of obligation due to passage of time or The increase in the Plan liability over the accounting period due to interest (the time value of money)
Net Periodic Benefit Cost. This is the profit and loss charge for the accounting period, *under IND AS (19)* and comprises the sum of the service and net interest costs, plus amortized actuarial gain /Loss.
***Other Comprehensive Income*:** Other comprehensive income comprises items of income and expense (including reclassification adjustments) that is not recognized in profit or loss as required or permitted by other IND AS 19.

***Past Service Cost*.** Plan amendments often include provisions that grant increased benefits based on services rendered in prior periods. These provisions give rise to past service costs.

Plan Liability. This quantity is the discounted present value of all benefits attributed by the plan's benefit formula to service rendered prior to the measurement date. It is measured using an assumption as to future pay levels.

Present Value. Sometimes called "actuarial present value," the current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future, The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

***Present value of the Obligation*.** The actuarial present value as of a date of all benefits attributed by the pension benefit formula to employee service rendered before that date. The Present value of obligation is defined in AS 15 and is measured based on the discount rate and other assumptions used for accounting disclosure purposes. The present value of the obligation is measured using assumptions as to future compensation levels and increases in maximum benefit limitations (if applicable). The interest rate used in determining the present value is the discount rate.

Remeasurements of the net defined benefit liability (asset) comprise:

(a) Actuarial gains and losses;

(b) The return on plan assets, excluding amounts included in net interest on the net defined benefit liability (asset); and

(c) Any change in the effect of the asset ceiling, excluding amounts included in net interest on the net defined benefit liability (asset).

Service Cost. It has the following components.

A) This is the discounted present value of benefits attributed by the plan's benefit formula to services rendered by employees during the accounting period. It is measured using an assumption as to future pay levels.

b) Past service cost: which is the change in the present value of the defined benefit obligation for employee service in prior periods, resulting from a plan amendment (the introduction or withdrawal of, or changes to, a defined benefit plan) or a curtailment (a significant reduction by the entity in the number of employees covered by a plan); and

***Settlement*.** A transaction that is irrevocable relieves the employer (or the plan) of primary responsibility for a pension benefit obligation and eliminates significant risks related to the obligation and the assets used to effect the settlement. The purchase of non-participating annuities or the payment of significant lump-sum payments to plan participants might constitute a settlement.

Termination Benefits. Benefits provided to employees in connection with their termination of employment at a specific time or under certain prescribed circumstances

***Unrecognized Net Gain or Loss*.** The cumulative net gain or loss that has not been recognised as a part of net periodic pension cost

Unrecognised Past Service Cost. That portion of past service cost that has not yet been recognised as part of expense is unrecognised past service cost.

ENDS.

This is regarding requirement of Air Conditioner for server/communication room to maintain temperature for communication equipment for the proper working of servers/communication equipment.

It is to inform that the number of communication equipment in server room are increased as various new project/scheme has been implemented and for the same many servers/communication equipment has been installed in the server room.

It is also mention that existing air conditioners of server room are almost ten years old which is not providing proper cooling and keep on breaking down very frequently due to very high environmental temperature. It is expected that temperature may be increased more in future.

M/s Nmsworks software pvt. ltd has informed vide email that the server room temperature is going higher than normal which may result in malfunctioning of device/server of ER-UNMS project. It is also informed that present temperature of sever room is almost 38 degrees centigrade (placed at C/415-414). However, temperature should not be more than 25-27 degrees Celsius. Further, M/s Nmsworks has requested to make arrangement to lower the temperature to extent the life of servers and network devices and avoid sudden breakdowns. Similarly, all service providers of communication equipments/sever have requested to maintain proper cooling of server/communication room for proper working of communication equipment as overheating of servers may cause breakdown of servers, network devices and resulting non communication of the real time data of entire grid to SLDC.

Further, it is to mention that CE (Civil) & CE (O & M) BSPHCL has been requested regarding requirement of Air Conditioner for server/communication room to maintain temperature for communication equipment for the proper working of servers/communication equipment (place at C/408). Ce(O&M) vide letter no. 68 dated 11.06.2024 has requested that please do the work related to installation and other electrical wiring at your level. (placed at C/413).

In view of the above facts, file is put up procurement process and quotations from reputed local supplier may kindly be called for installation of Air Conditioner for server/communication room to maintain temperature for communication equipment for the proper working of servers/communication equipment.

Anupam Kamal
18/06/24

Seema
18/06/24

ANUPAM KAMAL
ELECTRICAL EXECUTIVE ENGINEER
ULDC

Seema Kumari
Assistant Executive Engineer
ULDC, BSPTCL, PATNA

EEE(ULDC)

E.S.E ULDC

18.6.24
Arvind Kumar
ESE ULDC
BSPTCL

CE (O)

-94-

Notes on prepage.

→ AC installed in Server Room and Communication Room is not working properly. The heat produced by equipments is not being cooled by the ~~Φ~~ 02 (Two) nos. Split AC and 05 (Five) Nos. Cassette AC.

→ CE (O&M) and CE (Civil) was requested by undersign for installation of 04 (Nos.) of AC, 02 each in Server Room and Communication Room. But they have suggested to get it installed by BSPTCL.

→ Administrative approval may kindly be accorded for installation of 04 No. 2 (Two) Tonne AC in Server Room and Communication Room ~~on~~ for better function of equipments installed there.

File is put up for kind perusal and accordingly administrative approval for inviting ~~[illegible]~~ quotation for supply and installation of 04 No., 2 Tonne AC in Server Room and Communication Room from working agencies of Trans. Circle of Patna (East) and Patna (West).

Director (Operations)

18/06/24

ARUN KUMAR CHOUDHARY
CHIEF ENGINEER (S O)
BSPTCL, PATNA

264/CE (S.O.)
18/06/2024

460/Dir(op)
18.06.24

Refer relevant clause in DoP. ^(governing) for purchase through inviting quotations.

19/06/2024.

A.K. Singh
Director (Operation)
BSPTCL

CE (S.O)

Invite quotation from regular contractor of BSPTCL on emergency.

19/06/24

ARUN KUMAR CHOUDHARY
CHIEF ENGINEER (S O)
BSPTCL, PATNA

ESE/ULDC

ULDC

438

Bihar State Power Transmission Company Ltd., Patna
A subsidiary company of Bihar State Power (Holding) Company Ltd., Patna
CIN – U40102BR2012SGC018889
[SAVE ENERGY FOR BENEFIT OF SELF AND NATION]
Head Office, Vidyut Bhawan, Bailey Road, Patna -800021,
Email address - so.dept@bsptcl.bihar.gov.in Website – www.bsptcl.in

Name of Work: - Supply, Installation and commissioning of Four (4) nos of two tons Air Conditioner for server/communication room.

Sr.No	Description	Amount (Rs.)
A	**Supply**	
I	Air conditioner required for Server Room, SLDC, Patna (high wall type 5 star rated split ac unit of 2 TR capacity with voltage stabilizer)	254994.6
II	Supplying and fixing of PVC conduit pipe (3.5C*35sqmm) size cable	3250.15
III	2*2.5 +1*2.5 sqmm copper coductor PVC conduit	4920
IV	A.C.Switch box(25A)	1500
V	100 Amp TPN MCB	1243
VI	25 Amp SPN MCB	1576
VII	Junction Box (100 Amp)	3065
VIII	3X6sq.mm Copper Cable	5400
IX	4 X2.5 sq. mm Copper Cable	10800
X	Copper pipe set for extra requirement	119000
XI	Supply and erection of drain pipe for extra requirement	2320
XII	Conduit pipe	9200
	Sub Total A (I to XII)	**427268.75**
B	**Erection & Commissioning**	
I	Air conditioner required for Server Room, SLDC, Patna (high wall type 5 star rated split ac unit of 2 TR capacity with voltage stabilizer)	27994.68
II	fixing of PVC conduit pipe (3.5C*35sqmm) size cable	326
III	Labour Charges (Electrician)	3018
	Sub Total B (I to III)	31338.68
C	Taxes and Duties	
I	GST @ 18% on A (I to XII)	76908.375
II	GST (@ 18%) on B (I to III)	5097.7224
	Sub Total C (I to III)	82006.1
	Total (A to C)	540613.5274
	GRAND TOTAL	**540614.00**

10/09/24 — A.Ex.E, ULDC
10/09/24 — E.Ex.E, ULDC
10.9.24 — E.S.E, ULDC

Estimate. No. 02

Dated 20-09-2024

TECHNICALLY SANCTIONED

For Rs. 5,40,614.00 (Five Lakh Forty Thousand Six Hundred Fourteen) only including GST.

14/09/24
A.K.Chaudhary
(Chief Engineer, System Operation)