



Report

Actuarial Valuation of Gratuity, Pension & Leave Encashment Liability As at March 31, 2017

**Telangana State Southern Power
Distribution Company Ltd.
(TSSPDCL)**

July 31, 2017

Asia Pacific Actuarial Consultants

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Telangana State Southern Power Distribution Company Limited (TSSPDCL)

Actuarial Valuation of Staff Terminal Benefits

BACKGROUND

- I. The Government of Andhra Pradesh initiated reforms in power sector with the objective of ensuring efficient supply of electricity in terms of quality, cost and support economic and infrastructure development of the State. The road map of reforms also had set the direction to achieve financial discipline and become commercially viable. The implementation of Reform Process started with the enactment of Andhra Pradesh Electricity Reform Act, 1998, by the Government of Andhra Pradesh.

Under the power sector reform program, Andhra Pradesh State Electricity Board (APSEB) was corporatised and unbundled into the Power Generation Corporation of Andhra Pradesh Limited (APGENCO) and the Transmission Corporation of Andhra Pradesh Limited (APTRANCO) with effect from 1st February 1999. Further APTRANCO was unbundled into Transmission Company and four Distribution companies (DISCOMS) on 1st April, 2000.

The erstwhile APSEB since its formation in April 1959 has been making ad hoc provisions towards employees' terminal benefits; Pension and Gratuity. The provisions were grossly inadequate and were not cash funded. Payments of terminal payments as and when due was made from the current revenues.

APSEB ascertained the liabilities through an actuarial valuation as at 31st January 1999. This valuation was done with sample employee data.

Based on the said actuarial valuation the initial fund size for unfunded liabilities of pension and gratuity were estimated as under:

Rs. 1320.43 Crores for funding pension liability of pensioners. Pensioners are those employees, who retired on or before 31st January, 1999.

Rs. 2811.98 Crores for funding towards pension and Rs.254.54 crores towards gratuity in respect of serving employees that is employees who were on rolls as on 31st January 1999.

- II. In order to comply with legal, accounting and fiscal management requirements (Income Tax and Companies Act provisions) Trusts are set up to manage and administer Pension and Gratuity programs. Details of the Trusts are:

Master Trust	Managed / administered by all the 6 Companies
Units'/ Companies Trusts	Managed / Administered by the respective units/ Companies

Master Trust is created to meet the Pension and Gratuity liabilities of the following category of employees

1. 100% Pension liability of employees who have retired on or before 31st January 1999. This is backed with an investment of Rs. 1320.43 crores guaranteed by Government of Andhra Pradesh.
2. 74% of Pension and Gratuity liability in respect of employees who have continued in service beyond 31st January 1999. The sharing of 74% of the liability is backed with an investment of Rs.3066.52 Crores, guaranteed by Government of Andhra Pradesh.

Each of the 6 Units have created separate Trust Fund to meet Pension and Gratuity liabilities of the following employees

1. 26% of Pension and Gratuity liability in respect of employees who have continued in employment after 31st January 1999. This will also include the pension liability of those who retired between 31st January 1999 and 31 March 2017.
2. 100% of Gratuity liability in respect of employees in the respective units who have joined services on or after 1st February 1999.
3. Each of units' has made contributions to the respective Trusts and the funds are kept invested.

As per the Reforms Act a statutory authority called 'The Andhra Pradesh Electricity Regulatory Commission' has been constituted by the Govt. of Andhra Pradesh to oversee the functions of licensees including APTRANSCO, four distribution companies and fix the Power Tariffs to various categories of power consumers in the State.

Power tariffs are decided on the basis of costs and employee post retirement benefit obligation also is a constituent cost in deciding the tariffs as per APERC orders dated 15th March 2004 (paragraph 99 to 100)

INTRODUCTION

Asia Pacific Actuarial Consultants has been mandated by Telangana State Southern Power Distribution Company Limited (TSSPDCL) to determine liabilities through an Actuarial Valuation as at 01/06/2014.

PURPOSE OF THE VALUATION

To assess the liability of the accrued benefits in respect of the following

1. Pension Liability in respect of employees who retired on or before 31st January 1999
2. Accrued Pension and Gratuity Liability in respect of employees of TSSPDCL who have continued in service after 31st January 1999
3. Accrued Gratuity liability in respect of employees of the company who joined on or after 1st February 1999. These employees are not members of the pension scheme.
4. Allocation of liabilities for Pension and Gratuity between TSSPDCL and the Master Trust, in respect of employees who were on the rolls as on 31st January 1999 and continued in service beyond 31st January 1999, in the ratio of 26% to Unit Trust and 74% to Master Trust.
5. Determine the future contribution rates required as a percentage of the qualifying wage bill.
6. Leave encashment Liability for all the employees on the roll on the valuation date.

BENEFITS VALUED

Retirement benefit plans which have been valued are:

1. Pension
2. Gratuity
3. Leave encashment with Long Term Compensated Absences (LTCA)

The benefit formula has been evolved on the basis of rules of the schemes as provided in the published booklet - The Andhra Pradesh Revised Pension Rules, 1980.

VALUATION DATES

The valuation exercise has been carried out as on 31 March 2017.

DATA & ASSUMPTIONS

Given below is the summary of the membership information as at 31 March 2017

SUMMARY OF EMPLOYEE DATA AS ON 31 March 2017 – ACTIVES

Gratuity and Leave encashment

Joined before 31.1.99	Joined after 31.1.99	Total
3725	5470	9195

Pension – Active

Joined before 31.1.99	Joined after 31.1.99	Total
3724	2	3726

PENSIONERS

Pensioners	Family Pensioners	Total
3599	1989	5588

VALUATION METHOD

The Actuarial value of Past Service benefits is calculated in respect of accrued service of active employees basing the calculations on the projected salaries from the date of Valuation to the assumed date of exit of the members. (This method is usually termed as projected accrued benefit method / projected unit credit method)



As regards future service, an annual contribution rate as a percentage of pensionable salaries is estimated, which, if paid regularly, (together with existing fund) is expected to meet the benefits out go in respect of existing members of the scheme.

Actuarial valuation is a group concept and is performed by using the actuarial assumptions disclosed below on an aggregate level.

VALUATION ASSUMPTIONS

Rate of Interest / Discount	7.25% per annum
Rate of Salary growth	9% per annum
Rate of inflationary increases in pensions	4% per annum
Mortality – Active members	IALM (2006-08)
Mortality – Pensioners	LIC 96-98A
Withdrawal – Age specific	Up to 30 years - 1% 31 to 48 years - 0.5% Above 48 years - 2%
Rate of Commutation of Pension	40%
Restoration of Commutation	15 years from retirement
Retirement age	Class IV – 60 years, Others - 58 Years
Dependant benefits	As per provisions of the scheme

BIFURCATION OF LIABILITY BETWEEN TSSPDCL AND THE MASTER TRUST

The liability in respect of gratuity and pension has been bifurcated between TSSPDCL and Master Trust as per details given below:

Accrued Liability in respect of:	Liability allocation	
	Master Trust	Unit Trust
Gratuity for employees who continued on rolls beyond 31 st January 1999	74%	26%
Gratuity for employees who joined with the units on or after 1 st February 1999	Nil	100%
Pension for employees who continued on rolls beyond 31 st January 1999 (excluding those retired from 1 st Feb 1999 to 31 st March 2017)	74%	26%
Pension for employees who joined with the units on or after 1 st February 1999	Not eligible	Not eligible
Pension to the Pensioners who retired from employment on or before 31 st January 1999	100%	Nil
Pensioners who retired from employment between 1 st February 1999 and 31 st March 2017	74%	26%

FUTURE CONTRIBUTION RATES

MASTER TRUST

The entire liability of the Master Trust is to be met out of the bonds issued and any shortfall as explained above will be met through additional interest payments. As such there are no future contribution rates for Master Trust

TSSPDCL'S SHARE

TSSPDCL's share of total service liability will be met by existing fund, provided the contribution rates in the table below are maintained and that the demographic and economic assumptions are borne out. Total service liability assessment for units consist of the following

1. Pension liability in respect of those who retired between 1-2-1999 and the valuation date
2. Pension liability in respect of active employees who continued in service after 31.1.99
3. Gratuity liability in respect of active employees who continued in service after 31.1.99
4. Gratuity liability in respect of employees who are recruited after 31.1.99

The future contribution rate as a percentage of qualifying salary depends on various factors. These include average age, average past service and the funding status (i.e. Ratio of the current fund to the total accrued liability calculated on the basis of actual past service and estimated salary at the time of separation of each individual employee).

RESULTS OF THE VALUATION & CONTRIBUTION RATES REQUIRED

Results as on 31 March 2017 are given in Annexure A have been worked out on the following assumptions

- The fund will be paying the pensions and will not be purchasing annuities from LIC or any other insurance company
- The pensionable salary growth is at the rate of 9%
- Pension increases at the rate corresponding to an inflationary increase of 4%.
- All employees will commute the maximum allowable at 40%
- All survive, serve and retire on the normal retirement date

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Annexure A

PLAN-WISE LIABILITY

TSSPDCL	31-Mar-2017	
	Salary escalation - 9%	
BASIS-Unit 26%, Master 74%		
31st March 2017		
	Accrued Liability	
Gratuity for employees on rolls on or Before 1-2-1999	UNIT	MASTER
Gratuity for employees who joined units on or after 1-2-1999	709,840,633	2,020,315,649
Pension : employees on rolls on 1-2-99 -excl. retirees from 1.2.99 to 31.3.17	1,148,595,507	-
Pension : employees joined between 1-2-99 & 31-8-04	5,232,443,036	14,892,337,872
Pension for employees who retired from 1.2.99 to 31.3.17	-	-
Pensioners/pre 01.02.99)and Family pensioners	10,125,748,261	28,819,437,360
Total Accrued Liability as at 31st March 17	17,216,627,438	45,732,090,881
Fund as on 31st March 17	5,564,186,682	
Deficit	11,652,440,756	45,732,090,881
Contribution Rate		
Gratuity		
Total Service Liability (Active as on 1-2-99)	719,374,851	2,047,451,500
Total Service Liability (post 31.1.99)	1,541,555,223	-
Sub Total 1	2,260,931,075	2,047,451,500
Pension:		
Total Pension :employees on rolls on 1-2-1999-excl. retirees from 1.2.99 to 31.3.17	6,329,398,054	18,014,440,615
Total Pension :employees joined after 1-2-1999	-	-
Total Pension :Those retired from 1.2.99 to 31.3.17	10,125,748,261	28,819,437,360
Pensioners/pre 01.02.99)and Family pensioners	-	-
Sub Total 2	16,455,146,315	46,833,877,975
Grand total	18,716,077,390	48,881,329,475
Fund as on 31st March 17	5,564,186,682	
Liability to be funded through future contributions	13,151,890,708	
Leave encashment Liability	6,586,435,786	

Annexure B

AS15(R) disclosure for Pension and Gratuity Trust

B.Revised AS-15 (2005) Disclosures - Pension & Gratuity Trust

Executive Summary	
Amounts in Balance Sheet at Period-End	31-Mar-2017
Projected Benefit Obligation (PBO)	16,068,031,931
Fair value of plan Assets	5,434,643,758
Funded Status - (Surplus)/Deficit	10,633,388,173
Unfunded Projected Benefit Obligation (PBO)	-
Past Service Cost not yet Recognised	-
Unrecognised Asset due to Limit in Para 58(B)	-
(Asset)/Liability Recognised in the Balance Sheet	10,633,388,173

Amounts Recognised in Statement of Profit & Loss at Period-End	01-Apr-16 to 31-Mar-17
Current Service Cost	317,588,809
Interest Cost	1,024,339,291
Expected Return on Plan Assets	(428,056,620)
Past Service Cost	220,890,649
Net Actuarial Losses/(Gains) recognised in the period	1,632,052,623
(Gain)/Loss due to Settlements/Curtailments/Terminations/Divestitures	-
Unrecognised Asset due to Limit in Para 58(B)	-
Total Expense/(Income) included in "Employee Benefit Expense"	2,766,814,752

Appendices

B.Revised AS-15 (2005) Disclosures - Pension & Gratuity Trust

Change in Present value of Benefit Obligation during the Period	01-Apr-16
	to
	31-Mar-17
Projected Benefit Obligation, Beginning of Period	13,603,867,736
Current Service Cost	317,588,809
Interest Cost	1,024,339,291
Actual Plan Participants' Contributions	-
Actuarial (Gains)/Losses	1,674,518,569
Changes in Foreign Currency Exchange Rates	-
Acquisition/Business Combination/Divestiture	-
Benefits Paid	(773,173,123)
Past Service Cost	220,890,649
Loss / (Gains) on Curtailments	-
Liabilities Extinguished on Settlements	-
Projected Benefit Obligation, End of Period	16,068,031,931

Change in Fair value of Plan Assets during the Period	01-Apr-16
	to
	31-Mar-17
Fair value of Plan Assets, Beginning of Period	5,737,294,315
Expected Return on Plan Assets	428,056,620
Actual Company Contributions	-
Actual Plan Participants' Contributions	-
Changes in Foreign Currency Exchange Rates	-
Actuarial Gains/(Losses)	42,465,946
Benefit Payments	(773,173,123)
Acquisition/Business Combination/Divestiture	-
Liabilities Extinguished on Settlements	-
Fair value of Plan Assets, End of Period	5,434,643,758

*Opening asset is the balance as on 1 April 2016 as given by the company

Current/Non Current Benefit Obligation *	31-Mar-17
Current	-
Non Current	10,633,388,173
Total	10,633,388,173

* The Current/non-current split is based on "Net liability"

APAC

Annexure C

AS15(R) disclosure for Gratuity – after 1.2.1999

**C.Revised AS-15 (2005) Disclosures - Gratuity after
1.2.1999**

Executive Summary	
Amounts in Balance Sheet at Period-End	31-Mar-2017
Projected Benefit Obligation (PBO)	1,148,595,507
Fair value of plan Assets	-
Funded Status - (Surplus)/Deficit	1,148,595,507
Unfunded Projected Benefit Obligation (PBO)	-
Past Service Cost not yet Recognised	-
Unrecognised Asset due to Limit in Para 58(B)	-
(Asset)/Liability Recognised in the Balance Sheet	1,148,595,507

Amounts Recognised in Statement of Profit & Loss at Period-End	01-Apr-16
	to
	31-Mar-17
Current Service Cost	65,063,589
Interest Cost	62,821,705
Expected Return on Plan Assets	-
Past Service Cost	113,411,429
Net Actuarial Losses/(Gains) recognised in the period	102,998,150
(Gain)/Loss due to Settlements/Curtailments/Terminations/Divestitures	-
Unrecognised Asset due to Limit in Para 58(B)	-
Total Expense/(Income) included in "Employee Benefit Expense"	344,294,874

Appendices

C.Revised AS-15 (2005) Disclosures - Gratuity after 1.2.1999

Change in Present value of Benefit Obligation during the Period	01-Apr-16
	to
	31-Mar-17
Projected Benefit Obligation, Beginning of Period	816,904,664
Current Service Cost	65,063,589
Interest Cost	62,821,705
Actual Plan Participants' Contributions	-
Actuarial (Gains)/Losses	102,998,150
Changes in Foreign Currency Exchange Rates	-
Acquisition/Business Combination/Divestiture	-
Benefits Paid	(12,604,031)
Past Service Cost	113,411,429
Loss / (Gains) on Curtailments	-
Liabilities Extinguished on Settlements	-
Projected Benefit Obligation, End of Period	1,148,595,507

Change in Fair value of Plan Assets during the Period	01-Apr-16
	to
	31-Mar-17
Fair value of Plan Assets, Beginning of Period	-
Expected Return on Plan Assets	-
Actual Company Contributions	-
Actual Plan Participants' Contributions	-
Changes in Foreign Currency Exchange Rates	-
Actuarial Gains/(Losses)	-
Benefit Payments	-
Acquisition/Business Combination/Divestiture	-
Liabilities Extinguished on Settlements	-
Fair value of Plan Assets, End of Period	-

Current/Non Current Benefit Obligation *	31-Mar-17
Current	21,142,424
Non Current	1,127,453,083
Total	1,148,595,507

* The Current/non-current split is based on "Net liability"