

these regulations:

“Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.”

13 Rate of Return on Equity (Regulation 15)

13.1 It was proposed in the draft regulation 15 that the return on equity would be determined @ 14% in terms of the equity base determined in accordance with draft regulation 13. It was also proposed that equity invested in foreign currency should be designated in rupee terms on the date of investment. The responses to the proposed rate of return were varied and divergent.

13.2 NTPC in its submission has claimed 21.5% of post-tax rate of return on equity, supported by a detailed calculation using Capital Assets Pricing Model. For calculation, NTPC considered a risk-free rate of return of 8.5%, applicable to the 10 years Government securities, market premium of 10% and a beta value of 1.0 for power sector. It has also considered 3% additional return to compensate return on equity during construction period. Hydro generators like NHPC, SJVNL, and THDC proposed a post-tax rate of return on equity of at least 18% with 1% additional return for hydro projects because of the higher risk perception. NEEPCO has proposed as high as 30% of post-tax rate of return on equity for north-eastern region. Transmission companies like PGCIL, Power links, Universal Infratech and other companies like Energy Infratech have advocated for allowing at least 18% of post-tax rate of return on equity. CII has also proposed a return of 17% to 18% and consideration of return during gestation period. Private entities like Power Dodson LIPL, Energy Infratech, Avanta Power, CESC, Torrent Power, have proposed a post-tax rate of return on equity of at least 16% considering the financial market scenario. Mr. C. P. Jain has endorsed the proposal of post-tax rate of return on equity of 16% as SBI PLR was increasing



13.3 On the other hand beneficiaries like GRIDCO, UPPCL, GUVNL, BSEB, KSEB and individual consumers like Ms. Mallika Sharma Bezbaruah have objected to providing higher return on equity to the utilities. They are of the opinion that the Commission should review the entire benefits available to the utilities along with return on equity and permit recovery of cost of electricity at a reasonable manner. Some of the consumers have even proposed to reduce the return on equity from 14% to 12%. UPPCL, MPPTCL and *Er. Paramjit Singh, consumer* have proposed a pre-tax rate of return of 14% for the new projects and 19% for the existing projects.

13.4 Section 61 (d) of the Electricity Act, 2003 provides that the Commission, while specifying the terms and conditions for the determination of tariff, shall be guided by the principle of '*safeguarding of consumers interest and at the same time, recovery of cost of electricity in a reasonable manner*'. Para 5(3)(a) of the Tariff Policy stipulates that:

'Balance needs to be maintained between the interests of consumers and the need for investments while laying down rate of return. Return should attract investments at par with, if not in preference to, other sectors so that the electricity sector is able to create adequate capacity. The rate of return should be such that it allows generation of reasonable surplus for growth of the sector'

13.5 The Commission has thus the mandate to fix a rate of return for equity that will not only attract investment and generate sufficient resources for further growth in the sector but also to take care of the consumers' interest. The interests of the consumers are taken care of in real sense only when quality power is made available for twenty four hours a day throughout the year. This could be achieved only through large capacity addition which in turn will require huge investment in the power sector. Considering the investment pattern of 70:30 debt-equity ratio, the utilities are required to build up sufficient internal accruals so that they are able to meet the target of investing at least 30% of capital cost in the form of equity. A higher investment in the



form of equity also helps the entities in negotiating and availing loan at competitive terms and conditions.

13.6 The power sector in India during last few years has been able create a lot of enthusiasm amongst the investors and attract investment. In the last five years, there have been rapid developments in the equity market and debt market related to power sector in India. Various CPSUs and private entities working in power sector have entered into primary market to raise funds. The sector is at the take off stage at present and there is a need to ensure that the confidence evinced is sustained.

13.7 The rate of return on equity can be fixed by using any of the scientific model like dividend growth model, price/earning ratio, capital asset pricing model, risk premium model, etc or by linking to an appropriate benchmark with a mark up. As on date only few entities working in power sector in India have entered into primary market and that too, very recently. To calculate the rate of return by using a scientific model, one needs sufficient volume of related data for calculation of beta value, expected rate of return, P/E ratio, etc. Except a few companies such as NTPC, Reliance Energy, PGCIL etc, not many generating companies and transmission licensees particularly in the State Sector are listed in the Stock Exchange. As sufficient data in regard to the power sector, particularly scripts traded in the secondary market, are not available, the Commission does not favour to estimate the rate of return by using any of the scientific models.

13.8 The Commission also discussed the option of linking rate of return on equity to an appropriate benchmark with a mark up. The rate of return on equity may be linked to an appropriate benchmark like RBI Bank Rate, SBI PLR, Average PLR, 10 yr G-Securities Rate, etc. However, the Commission cannot remain oblivious of the realities of the debt market, more so of the fluctuations in interest rates as witnessed in recent past. The debt market in India is not yet stable. The Commission feels that unless the debt market stabilizes, it may not be feasible to arrive at an appropriate benchmark rate. This leads to difficulty in linking the rate of return to a benchmark with a mark up



13.9 It may be noted that in the last five years there has been a rise in the interest rate. The Prime Lending Rate (PLR) of the public sector banks have increased during this period, as is seen from the table given below:

Year	PLR of Public Sector Banks (%)
March 2004	10.25-11.50
March 2005	10.25-11.25
March 2006	10.25-11.25
March 2007	12.25-12.75
March 2008	12.25-13.50
January 2009	12.00-14.00

The interest rate of 10-year Government securities has also increased from 5.1461% as on March 2004 to 7.1197% as on November 2008.

13.10 The Commission allowed rate of return on equity of 16% and 14% for the tariff period 2001-04 and 2004-09 respectively. The PLRs of State Bank of India during 2001 and 2004 were 11.50% and 10.25% respectively. But as on 1st January 2009, the PLR of State Bank of India is 12.25%. After considering the rise in the PLR of the public sector banks, 10-year G-Sec, etc and also in order to help the entities to build up sufficient internal accruals for the purpose of investment in capacity addition and to ensure better cash flow, the Commission considered & deliberated to restore the rate of return at 16% as was existing prior to 1.4.2004. After consultations & deliberations it was decided to increase the base rate from 14% to 15.5% and an additional 0.5% for timely competition as explained below.

13.11 The Commission has taken note of the fallout of time overrun and cost overrun due to delay in completion of the projects. The consumers are not getting the benefits of the projects in time. This is a great national loss. As electricity is the prime mover,



the nation will be able to achieve the growth rate of GDP of 8% only if the power sector grows at a rate of about 10%. Non completion of projects in time has a negative impact on the national growth. Keeping all these factors in mind and in order to incentivise the timely completion of projects, the Commission has decided to allow an additional return on equity at the rate of 0.5% to those projects that are completed within time, as stipulated in Appendix-II of these regulations. If the project is not completed within the stipulated timeline for any reasons whatsoever, the additional return of 0.5% shall not be admissible. Accordingly, draft Regulation 15 has been modified as sub-clauses (1) and (2) of Regulation 15 of these regulations as under:

“ 15. **Return on Equity.** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per clause (3) of this regulation.

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in **Appendix-II**:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.”

13.12 In case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the following timeline decided in consultation with CEA:

1. The completion time schedule shall be reckoned from the date of investment approval by the Board (of the generating company or the transmission licensee), or the CCEA clearance as the case may be, up to the date of

commercial operation of the units or block or element of transmission project as applicable.

2. The time schedule has been indicated in months in the following paragraphs and tables:

A. Thermal Power Projects

Coal/Lignite Power Plant

Unit size 200/210/250/300/330 MW and 125 MW CFBC technology

(a) 33 months for green field projects. Subsequent units at an interval of 4 months each.

(b) 31 months for extension projects. Subsequent units at an interval of 4 months each.

Unit size 250 MW CFBC technology

(a) 36 months for green field projects. Subsequent units at an interval of 4 months each.

(b) 34 months for extension projects. Subsequent units at an interval of 4 months each.

Unit size 500/600 MW

(a) 44 months for green field projects. Subsequent units at an interval of 6 months each.

(b) 42 months for extension projects. Subsequent units at an interval of 6 months each.

Unit size 660/800 MW

(a) 52 months for green field projects. Subsequent units at an interval of 6 months each.

(b) 50 months for extension projects. Subsequent units at an interval of 6 months each.



Combined Cycle Power Plant

Gas Turbine size upto 100 MW (ISO rating)

(a) 26 months for first block of green field projects. Subsequent blocks at an interval of 2 months each.

(b) 24 months for first block of extension projects. Subsequent units at an interval of 2 months each.

Gas Turbine size above 100 MW (ISO rating)

(a) 30 months for first block of green field projects. Subsequent blocks at an interval of 4 months each.

(b) 28 months for first block of extension projects. Subsequent units at an interval of 4 months each.

B. Hydro Electric Projects

The qualifying time schedule for hydro electric projects shall be as stated in the original concurrence issued by the Central Electricity Authority under section 8 of the Act.

C. Transmission Schemes: Qualifying time schedules in months.

S. No.	Category of Transmission Project	Plain Area	Hilly Terrain	Snowbound area [@] / very difficult Terrain
A	765 kV S/C Transmission line	30	36	40
B	+/-500 KV HVDC Transmission line	24	30	34
C	400 KV D/C Quard Transmission line	32	38	42
D	400 KV D/C Triple Transmission line	30	36	40

Nain

E	400 KV D/C Twin Transmission line	28	34	38
f	400 KV S/C Twin Transmission line	24	30	34
G	220 KV D/C Twin Transmission line	28	34	38
H	220 KV D/C Transmission line	24	30	34
I	220 KV S/C Transmission line	20	26	30
J	New 220 KV AC Sub-Station	18	21	24
K	New 400 KV AC Sub-Station	24	27	30
L	New 765 kV AC Sub-Station	30	34	^s
M	HVDC bi-pole terminal	36	38	-
N	HVDC back-to-back	26	28	-
[@] e.g. Leh, Laddakh				
^s No 765 KV sub-Station has been planned in difficult terrain				

Notes

(i) In case a scheme having combination of the above mentioned types of projects, the qualifying time schedule of the activity having maximum time period shall be considered for the scheme as a whole.

(ii) In case a transmission line falls in plain as well as in hilly terrain/snow bound area/very difficult terrain, the composite qualifying time schedule shall be calculated giving proportional weightage to the line length falling in each area.

13.13 The Commission has noticed that the timelines for the coal/lignite-based projects do not mention the word first unit before the words "green field projects" and "extension projects". This has been noted and shall be corrected.

13.14 The return on equity with respect to the actual tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective years during the tariff period

Nain

shall be tried up separately for each year of the tariff period along with the tariff petition filed for the next tariff period.

14. Pre-tax Return {Regulation 15(4)}

14.1 Earlier in the draft regulation, the Commission proposed to retain the post-tax return on equity and tax on the income streams of the generating company or the transmission licensee, as the case may be, from its core business excluding net UI income and incentives was allowed to be recovered from the beneficiaries, or the long-term transmission customer, as the case may be.

14.2 The issue of allowing post-tax rate of return or pre-tax rate of return was raised in public hearing as well as written submissions. The generating companies and transmission licensees are in favor of retaining existing regulation. In other words, they are of the view that all the risks pertaining to tax on income from core business including incentive, efficiency gain, income on UI, etc should be passed on to the beneficiaries. On the other hand, beneficiaries want that income tax burden to the extent of normal return on equity should only be passed on to the beneficiaries and any proportion of income tax on account of income other than return on equity, like income accrued due to efficiency gain, incentive, UI, normative expenditure, etc should be borne by the utilities themselves.

14.3 Under post-tax rate of return on equity the beneficiaries are paying tax on the net income of the utilities and the tax burden is calculated by grossing up. Considering the present tax rate of 33.99% applicable to the company's form of business, under grossing up methodology, the tax burden becomes almost 50% of the net income of the utility. The beneficiaries are not against refunding income tax to the utilities on the admitted return on equity. The beneficiaries also do not have any objection if the utilities run their business more efficiently and thereby optimize their annual income provided no further cost on account of income tax on income other than admitted return on equity is passed on to them. From the utilities point of view, in a regulated business,



the tax burden is reimbursed from the beneficiaries or the consumers on no profit and no loss basis. Consumers pay for the income tax only when it is actually levied on the utilities. In case of any refund of income tax, the same is also passed on to the beneficiaries. Under existing regulation, even the benefit of income tax holiday under section 80IA of the Income Tax Act, 1961 is passed on to the beneficiaries. This benefit of income tax holiday is available to the investors only for development of infra-structure facilities. In case, the passing on the tax burden to the beneficiaries is restricted only to the return on equity component, there is no logic in passing on the benefit of income tax holiday under section 80IA of the Income Tax Act, 1961 to the beneficiaries.

14.4. The Commission, after considering all the views of all stakeholders is of the view that it will be appropriate to move to the system of pre-tax rate of return on equity from the existing post-tax rate of return on equity. Accordingly, the Commission has decided to allow pre-tax rate of return on equity to the utilities. The same shall be calculated by considering the applicable tax rate for the companies for the year 2008-09 as per the relevant Finance Act, as base rate. To give an example:

- (i) In case of a generating company or transmission licensee paying Minimum Alternate Tax (MAT) @ 11.33% including surcharges and cess:

$$\text{Rate of pre-tax return on equity} = 15.50 / (1 - 0.1133) = 17.481\%$$

- (ii) In case of a generating company or transmission licensee paying normal existing corporate tax @ 33.99% including surcharge:

$$\text{Rate of pre-tax return on equity} = 15.50 / (1 - 0.3399) = 23.481\%$$

14.5 In order to facilitate computation of pre-tax, illustrative examples on the above lines have been given in clause 4 of Regulation 15 of these regulations.



14.6 With this change, the beneficiaries will be required to meet the Income Tax liability limited to the equity of the project, considered for tariff purposes and not on other incomes, such as incentive, profit arising out of efficiency improvement, UI Income and the like.

15. Interest on Loan (Regulation 16)

15.1 It was proposed in the draft regulations that the loan arrived on the basis of debt-equity ratio to be determined as per the provision of draft regulation 13 would be considered as gross normative loan for the purpose of calculation of interest on loan. It was proposed that the normative loan outstanding as on 1.4.2009 would be worked out by deducting the cumulative repayment admitted by the Commission upto 31.3.2009. The repayment for the respective year should be deemed to be equal to depreciation allowed for that year. The interest on loan would be calculated on the normative average loan by applying weighted average rate of interest. The weighted average rate of interest has to be worked out on the basis of actual loan portfolio of the generating company or transmission licensee. In the absence of actual loan portfolio in a particular year, the last weighted average rate of interest and in the absence of any loan, the weighted average rate of interest of the generating company or transmission licensee would be taken into account. The draft regulation further provided for refinancing of loan and sharing of benefits with the beneficiaries in the ratio of 2:1.

15.2 Utilities like NTPC, Gujrat SECL have suggested de-linking repayment from depreciation and provision for a higher rate of depreciation to enable them to meet their cash outflow on account of loan repayment obligations. NHPC and SJVNL have proposed additional depreciation in the current tariff period if cumulative repayment is more than the cumulative depreciation allowed at the beginning of the tariff period. As regards sharing of net benefit on account of refinancing of loan, companies like PGCIL, Power links, Universal Infratech advocated sharing in the ratio of 1:1 while beneficiaries like MPPTCL, KSEB, and OPTCL have proposed that entire benefits be passed on to the consumers. Bangalore SEDCL has proposed a lower ratio of 3:1 for



32 Return on Equity Capital

32.1 Generation

32.1.1 Return on equity capital shall be computed on the equity capital determined in accordance with Regulation 30 at the rate of 15.5 per cent per annum in Indian Rupee terms:

Provided that in case of projects commissioned on or after 1st April, 2011, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in Annexure-III:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

32.2 Transmission Licensee and Distribution Licensee

32.2.1 Return on equity capital for the Transmission Licensee and Wires Business of Distribution Licensee shall be computed on the equity capital determined in accordance with Regulation 30 at the rate of 15.5 % per cent per annum, and for the Retail Supply of Electricity of Distribution Licensee, Return on equity capital shall be allowed a return at the rate of 17.5 % per cent per annum, in Indian Rupee terms, on the amount of equity capital determined in accordance with Regulation 30.

32.2.2 The return on equity capital shall be computed in the following manner:

- (a) Return at the allowable rate as per this Regulation above, applied on the amount of equity capital at the commencement of the financial year; plus
- (b) Return at the allowable rate as per this Regulation above, applied on 50 per cent of the equity capital portion of the allowable capital cost, for the investments put to use in transmission business or distribution business, calculated in accordance with Regulation 27, Regulation 28 and Regulation 29 above, for such financial year.

33 Interest on loan capital

33.1 The loans arrived at in the manner indicated in Regulation 30 shall be considered as gross normative loan for calculation of interest on loan.

Provided that in case of retirement or replacement of assets, the loan capital approved as mentioned above, shall be reduced to the extent of 70% (or actual loan component based on documentary evidence, if it is higher than 70%) of the original cost of the retired or replaced assets.

33.2 The normative loan outstanding as on April 1, 2011, shall be worked out by deducting the cumulative repayment as admitted by the Commission up to March 31, 2011, from the gross normative loan.

33.3 The repayment for the year of the tariff period FY 2011-12 to FY 2015-16 shall be deemed to be equal to the depreciation allowed for that year:

33.4 Notwithstanding any moratorium period availed by the Generating Company or the Transmission Licensee or the Distribution Licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed,