

ANDHRA PRADESH ELECTRICITY REGULATORY COMMISSION

HYDERABAD

Date : 07-03-2007

Present

Sri. K. Swaminathan, Chairman

Sri. Surinder Pal, Member

Sri. R. Radha Kishen, Member

O.P No. 32 of 2006

Transmission Corporation of Andhra Pradesh Limited Applicant

This came up for public hearing before several consumers, the representatives of various consumer organizations, generators and other stakeholders, on 22.01.2007 at Hyderabad, and having stood over for consideration till this day, the Commission passed the following

O R D E R

Part I

Introduction

1. Sub-section (1) of section 31 of the Electricity Act, 2003 (36 of 2003), provides that the State Government shall establish a State Load Despatch Centre (hereinafter "SLDC") while sub-section (2) of the Section 31 provides that the said SLDC shall be operated by a

- Government company or any authority or corporation constituted by or under any State Act and that until such company /authority /corporation is notified by the State Government, the State Transmission Utility (STU) shall operate the SLDC. Pending establishment of such a company/authority/corporation, the Government of Andhra Pradesh (for short, 'GoAP') notified in GO Ms.No.8 dated 17-01-2004 that the existing SLDC shall continue as SLDC and be operated by the Transmission Corporation of AP Ltd., (hereinafter referred to as 'APPLICANT' or the 'Applicant') being the STU.
2. Section 32(3) of the Act provides for levy and collection of such fees and charges from the generating companies and licensees engaged in the intra-State transmission of electricity as may be specified by the State Commission.
 3. In exercise of powers conferred under Section 32(3) read with Section 181 (2) (g) of the Electricity Act 2003 and all other powers enabling it in that behalf, the Andhra Pradesh Electricity Regulatory Commission (hereinafter referred to as 'APERC' or as the 'Commission') notified on 27.07.2006, the APERC (Levy and collection of fees and charges by State Load Despatch Centre) Regulation, 2006 (Regulation No. 1 of 2006) for the levy and collection of fees and charges from all users.
 4. Applicant, the STU as per G.O.Ms.No.8 and the Applicant herein, submitted in accordance with Regulation No. 1 of 2006 its filing for proposed Annual Fee and Operating Charges for its SLDC Business (as distinct from its other business of transmission of electricity) for the first Control Period (FY 2007-08 and FY 2008-09) on 30.11.06.
 5. Thus the Commission has to determine the SLDC fees and charges for each year of the control period of 2007-08 to 2008-09, based on the

application of the Applicant, as filed, and after considering the objections/suggestions received/heard from general public and other stakeholders, on those filings.

PART II

PUBLIC HEARING ON ARR / SLDC FEES AND CHARGES

Notice calling for objections / suggestions

6. The Applicant, was directed to serve a public notice through publication, on 03-12-2006 later changed to 11-12-2006, at the request of the applicant who sought postponement in view of by election, in at least two daily newspapers in English and two in Telugu having circulation in the State informing the general public that it (the Applicant) had made its ARR (aggregate revenue requirement) filings on SLDC fees and charges for FY 2007-08 and FY 2008-09 with the APERC as per the APERC Regulation No.1 of 2006, on 30-11-2006, and that copies of the filings (together with supporting materials) were available with Chief Engineer/RAC, APTRANSCO, Vidyut Soudha, Hyderabad, and with the SEs/TL&SS at Visakhapatnam, Vijayawada, Cuddapah, Hyderabad and Warangal, for inspection/perusal/purchase by interested persons and that objections/suggestions can be filed on these proposals with the Secretary, APERC, by 08-01-2007.

Objections/suggestions received

7. Following the public notice, 7 persons / organisations sent their objections/suggestions to the Secretary, APERC, on the ARR/Tariff proposals of the Applicant by the due date i.e., 08-01-2007.

8. The Commission directed the Applicant vide its letter dated 18-12-2006 to send replies on all the objections / suggestions by 15-01-2006 and also supply a copy of the same to the Objector by the same date.
9. Notice of public hearing on 22-01-2006 in the Court Hall of APERC, Hyderabad, was given to the Applicant and the GoAP. All persons who had expressed their desire to be heard in person were also informed in writing about the venue and the date on which they would be heard. General public were also informed of the date of public hearing and through a press release, on 19-12-2007, and again on 19-01-2007.
10. Though all the seven objectors had desired to be heard in person, only four actually appeared or were represented before the Commission during the public hearing on 22-01-2007. Another objector, whose written objection was not received in the Commission, was also heard on his request during the hearing on 22-01-2007. The list of objectors is enclosed as Annexure III.

Hearing

11. During the hearing:
 - (i) the Applicant made an opening presentation at the commencement of the public hearing on its filings, as directed by the Commission vide its letter dated: 18-12-2006;
 - (ii) then, the Commission heard all the objectors desiring to be heard in person;
 - (iii) next, the Staff of the Commission made a presentation on the issues and concerns relating to the filings of the Applicant; and
 - (iv) the Applicant gave its responses on the issues raised by the objectors during the hearing and to the presentation made by the Commission Staff.

Meeting of the State Advisory Committee:

12. The issues concerned with the ARR proposals for SLDC fees and charges were discussed in the State Advisory Committee (SAC) meeting held on 12-02-2007 and suggestions made by the members of SAC have been taken into consideration by the Commission while finalising this Order.

Part III

FRAMEWORK FOR LEVY OF FEES AND CHARGES

13. The present filings of the Applicant as the STU operator in charge of the operations of the SLDC are for determination of its fees and charges for each of the two years of the first Control Period operative from 1.04.07. The Commission issued Regulation No. 1 of 2006 detailing the methodology to be adopted for fixing the fees and charges of SLDC. The methodology as specified in line with Section 32(3) of the Electricity Act, 2003, provides for the levy of an Annual Fee and Monthly Operating Charges, apart from the one-time Registration fee of Rs.1000 specified in the Regulation itself. The Annual Fee and Charges will be fixed for the control period, generally of 5-year duration, and the first Control period, however, comprising of two years, FY 2007-08 and FY 2008-09. All Users shall from 1.04.2007 pay to SLDC - the said fee and monthly operation charges leviable on the electricity transmitted, in MWs (mega-watts), subject to the charges for a minimum of one MW.
14. The annual fee has been designed to enable the SLDC to develop a state-of-art dispatch centre in order to ensure smooth flow of power among different players in the electricity market. The fee shall be determined by the Commission after taking into account the required capital investment for setting up the Centre and will be revised only on the basis of a filing made to the Commission by SLDC to cover any investments for upgradation and/or modernization of SLDC that may be

required for repayment of principal and payment of interest on investments in a year, plus any residual cost of past investments.

15. The SLDC shall submit an investment plan for each control period, not less than 120 days before commencement of the control period. The investment plan must include, inter-alia, the sources of funds for investment.
16. The basis for determination of the annual fee shall be the Capital Cost to be computed as follows:

$$\text{Annual SLDC Fee (Rs/MW/p.a)} = \frac{\text{Capital Cost (CC)}}{\text{Total Generation Capacity (MW)}}$$

where

Capital Cost (CC) for a given year shall be computed as follows:

$$\text{CC (in Rs.)} = \frac{\text{Investment} \times r}{1 - 1/(1+r)^t}$$

Where

Investment = Actual investment made in a year plus any residual value of previous investment (s).

r = Actual rate of interest on borrowed capital or 150% of the Bank Rate, whichever is the lower.

t = Number of years in which the investment is proposed to be recovered; for software, it would be 5 years and 10 years for other investments.

17. The Operating Charges take care of the expenses involved in running and maintaining the SLDC. These charges shall be fixed for a year on the basis of the filing of the Applicant and will cover:
 - a) Employee cost;
 - b) Administration and general charges;
 - c) Repairs and Maintenance expenses; and
 - d) Any other relevant costs and expenses deemed appropriate by the Commission.

Employee Cost

18. The employee cost to be considered for the year shall be as per the approved staffing plan or the actual employee cost, whichever is lower. As a first step, SLDC shall file the staffing plan within three months from the date of notification of the Regulation No.1 of 2006. The Commission will approve the staffing plan after examining the details thereof. The approval shall be for the purpose of cost recovery through operating charges alone and for no other purpose whatsoever.

Administration and General Expenses & Repairs & Maintenance Expenses

19. These expenses for the first Control Period will be fixed on the basis of the information filed by SLDC and accepted by the Commission. Thereafter, these will be fixed as per the norms to be determined by the Commission.

Other expenses

20. All other expenses, not covered by Capital cost, Employee cost, Administration and General Expenses or Repairs & Maintenance expenses shall fall under this category of expenses. The SLDC shall file the details of such expenses, if any, at the time of its filings for the purpose of fixation of charges.
21. The monthly operating charges per MW shall be computed as per the following formula:

$$\text{Operating Charges (Rs/MW/pm)} = \frac{\text{Annual Operating charges}}{\text{Total Generation Capacity (MW)} \times 12}$$

22. Variations in recovery of capital cost and operating charges over the fee and charges fixed for a year on account of variations in SLDC usage shall be adjusted in the subsequent control period, or earlier in case the variations are considered to be significant by the Commission warranting

adjustment thereof before the commencement of the subsequent control period, with financing cost at the average rate(s) of borrowing during the year(s) to which the variations relate.

Part -IV

GENERAL OVERVIEW OF THE LICENSEE'S FILINGS

23. In its application, the Applicant has requested the Commission to permit it to levy annual fees of Rs.3514/MW/annum for FY 2007-08 and Rs.4081/MW/annum for FY 2009-08 and operating charges of Rs.1862.39/MW/month for FY 2007-08 and Rs.1815.55/MW/Month for FY 2008-09.
24. Subsequently, at the public hearing, the Applicant requested, statedly on the basis of information becoming available to it after the filings had been made, for revision of the annual fee and operating charges on account of reduced generating capacity arising from the non-availability of gas for 4 new generating stations. The revised annual fee thus proposed is Rs. 3568/MW/annum for FY 2007-08 and Rs.4137 /MW/annum for FY 2008-09. The revised operating charges are Rs.1889.17 /MW /month for FY2007-08 and Rs. 1840.36/MW/month for FY 2008-09. The table below summarizes the changes:

Fee & Operating Charges for the first Control Period.

| Parameter Description | 2007-08 | 2008-09 |
|---------------------------------|---------|---------|
| Total Generating Capacity -MW | | |
| As filed | 12083 | 12983 |
| As revised | 11,910 | 12,810 |
| Annual Fee (Rs/MW/annum) | | |
| As filed | 3514 | 4081 |
| As revised | 3568 | 4137 |
| Operating charges (Rs/MW/month) | | |
| As filed | 1862.39 | 1815.55 |
| As revised | 1889.17 | 1840.36 |

25. The annual fee is expected to cover the repayment of principal and payment of interest on proposed total investments of Rs.26.37 crs in FY 2007-08 and Rs. 32.91 crs in FY 2008-09 with the Capital Cost working out to Rs.4.25 crs in FY 2007-08 and Rs.5.30 crs in FY2008-09.
26. In the annual investment plan for FY 2008-09, the increase of Rs.6.54 crs is on account of upgradation and modernization of the Energy Billing Centre (EBC) which is now part of SLDC. The Applicant has stated in its filings that the strengthening of the EBC is imminent in view of the implementation of Open Access (OA) from 1.12.2006 and as of now 51 private developers are servicing 589 scheduled consumers who are deemed to be OA generators and consumers.
27. Major strengthening of the telecommunication system has been planned aimed at removing the existing bandwidth constraints. The investment plan includes the installation of Fibre Optic Communication system for strengthening of communication system for transfer of real time data for load dispatch operations.
28. The Applicant has also included in the investment plan for SLDC, the creation of spare work stations, not possible under the present set-up which is a transitory arrangement at Vidyut Soudha Hyderabad, the headquarters also of the Applicant's other - and main - business of transmission of electricity, as also the headquarters of APGENCO. The proposal is to create 2 Nos. work stations.

Capital Investment Plan during First Control Period (Rs.Crs.)

| Investment Plan for SLDC Business for the first control Period FY 2007-08 and FY 2008-09 | | | |
|---|-----------------------|---------|---------|
| Sl.No | Name of the Wing | 2007-08 | 2008-09 |
| I | Opening Balance | 21.08 | 22.75 |
| II | New Investments | | |
| | - Grid Operation | 0.45 | 0.25 |
| | - Commercial/EBC wing | 0.66 | 0.14 |
| | - Telecom | 4.18 | 9.77 |
| | Total | 5.29 | 10.16 |
| III | Grand Total | 26.37 | 32.91 |

29. Calculation of the Annual Fee has been done as per the methodology outlined in Regulation No.1 of 2006 and is as shown in the table below:

Annual fee of SLDC business for the First Control period

| Particulars | Unit | 2007-08 | 2008-09 |
|---|-----------------------|-------------|-------------|
| Total Capacity | MW | 12083 | 12983 |
| Total Investment (OB of Net fixed assets + New investment) | Rs. Crs. | 26.37 | 32.91 |
| Rate of Interest | % | 10.64% | 11.19% |
| 150% of Bank Rate (prevailing RBI rate 6.5%) | % | 9.75% | 9.75% |
| Tenure | Years | 10 | 10 |
| Capital Cost | Rs.Crs | 4.25 | 5.30 |
| Annual Fee | Rs./perMW/p.a. | 3514 | 4081 |

30. The annual operating costs estimated in the filings are Rs.27.00 crs for FY 2007-08 and Rs. 28.29 crs for FY 2008-09 and cover employee costs, administration and general expenses and repair and maintenance expenses. The Applicant has clarified that the process of assessing the staff required for transmission and for SLDC business is still not complete and till such time the exercise is not complete and the full separation of SLDC not effected, the O&M costs pertaining to Grid Operations, Power Systems, EBC and Telecom are taken into account as per the existing system for the purpose of this MYT (multi-year tariff) filing.
31. Maintenance expenses considered in the SLDC business are primarily for the RTUs (Remote Terminal Units) and the SCADA (Supervisory Control and Data Acquisition) system. The Repairs and Maintenance Charges of SLDC business for the first control period are estimated at Rs 6.30 Crs. for FY2007-08 and Rs.6.28 Crs. for FY 2008-09 and are for the three wings of the SLDC business viz. Grid Operation, Telecommunication, Power Systems and EBC. The expenses are largely on account of the

award of annual maintenance contracts (AMC) to the original manufacturers by POWERGRID (Power Grid Corporation of India Limited, the Central Transmission Utility) in the case of telecom systems and by RLDC (Regional Load Despatch Centre - Southern Region) as regards grid operations.

32. The total costs (capital costs and operating costs) are expected to be recovered over the total generating capacity of 12083 MWs in FY2007-08 and 12,983 MWs in FY2008-08 inclusive of 477 MW of Third Party Sales. During the public hearing, the Applicant informed that the generating capacity stands reduced on account of non-availability of gas for the four new generating stations, offset partly by reallocation of capacity from Kaiga (nuclear plant), resulting in a net reduction of 173 MWs. The generating capacity for recovery of fees and charges is accordingly reduced from 12,083 MWs to 11,910MWs in FY 2007-08 and from 12,983 MWs in FY 2008-09 to 12,810 MWs.

Total Generating Capacities during First Control Period

| Generating Capacities for the first control period FY 2007-08 and FY 2008-09 (as filed) | | | | |
|---|--|----------------|---------|---------|
| | Source of Power | Plant Capacity | 2007-08 | 2008-09 |
| | | (MW) | (MW) | (MW) |
| I | APGENCO | 7177 | 7,127 | 7,705 |
| A | Thermal | 3382 | 3,383 | 3,883 |
| B | Hydro | 3795 | 3,744 | 3,822 |
| II | Central Generating Stations | 7410 | 2,649 | 2,972 |
| III | Joint sector | 272 | 58.79 | 58.79 |
| IV | IPPS | 2496 | 1,296 | 1,296 |
| V | Others (NCE, M PPs etc) | 796 | 475 | 475 |
| | Total | 18,151 | 11,606 | 12,507 |
| VI | Third Party Sales | | 477 | 477 |
| | Grand Total (as filed) | 18151 | 12,083 | 12,983 |
| | Grand Total (adjusted for non-availability of gas and reallocation of capacity from Kaiga nuclear plant) | | 11,910 | 12,810 |

Part -V

REVIEW OF PERFORMANCE OF SLDC IN 2006-07

Financial performance

33. In their filings for SLDC charges for FY 2006-07, the Applicant had projected a requirement of Rs.53.99 crs which included ULDC (Unified Load Despatch Centre) charges. The ARR was to be recovered through SLDC charges of Rs.3.74/KW/Month from allocated generated capacity of 12036 MW. The Commission in the Order dated: 23.03.2006 in O.P.No.1 of 2006 inter-alia for SLDC Charges for FY2006-07, approved Annual Revenue of Rs.26.85 crs and permitted the Applicant to charge Rs1.86/KW/Month as SLDC charges.
34. The revised estimates filed show the Annual Revenue for FY2006-07 at Rs.25.46 crs. The Applicant has however claimed that as the allocated generated capacity of 12036 MW includes 626 MW wheeled to third parties for determining the SLDC tariff, the third parties to whom 626 MW wheeled could not be billed for and revenue realized owing to pending cases in various courts.

Part VI

ABSTRACT OF IMPORTANT ISSUES RAISED IN THE OBJECTIONS FILED AND RESPONSE OF APPLICANT THEREON

Violation of SLDC instructions by generators:

35. **Issue raised:** Some of the generators are violating the instructions of SLDC on merit order dispatch causing loss of crores of rupees to DISCOMs. Action taken to curb such indiscipline on the part of generating stations may be stated.

APPLICANT: Notices were issued to generators who did not back down though instructed to do so by SLDC and they were asked to pay the loss sustained by Applicant/DISCOMs. Applicant filed petitions for recovery of the loss from generators for 2005-06, which were not admitted by the Commission as no dispute existed u/s 86(1)(f). Another petition is being filed under appropriate provisions of law.

Vacant posts:

36. **Issue raised:** The status of recruitment for vacant posts including those at higher level.

APPLICANT: No recruitment is contemplated after 01-01-2006 for filling up initial cadre posts. However, Government have been requested to permit filling up of 274 vacancies of Assistant Engineer/Electrical, 44 Assistant Engineer/ Telecom, and 1 Assistant Engineer/Civil, including SLDC vacancies. Government approval is awaited.

Replacement of old metering equipment pursuant to Open Access:

37. **Issue raised:** The status in detail of replacement of old metering pursuant to open access activity in respect of 51 developers supplying power to about 590 scheduled consumers.

APPLICANT: The specification for ABT compatible Special Energy Meters (SEMs) is finalized and these meters need to be installed.

Alternatives to fibre optics technology:

38. **Issue raised:** Alternative options to fibre optics technology for use of all the facilities of EMS/SCADA, by the back-up LD center may be intimated.

APPLICANT: Alternate option of providing PLCC communication on 400 kV network has become difficult due to allocation of frequency points to each PLCC link as it has already reached saturation.

Unified load dispatch scheme:

39. **Issue raised:** Whether the involvement of Applicant in the 'unified LD scheme' is voluntary or it has been presented to it as fait accompli. What are the options for O & M of the same in the market?

APPLICANT: As per the directions of Central Electricity Authority and Ministry of Power, Gol, the unified LD (Load Despatch) scheme was implemented throughout the country by the five RLDCs and the NLDC of the POWERGRID for better coordination and monitoring of power flows. As a constituent of Southern Region, the Applicant became a member of the unified LD scheme of Southern Region.

Maintenance of SLDC equipment:

40. **Issue raised:** What are the other options for maintenance and servicing of the equipment, other than companies from which POWERGRID procured the equipment?

APPLICANT: POWERGRID has executed the project in the Southern Region including Applicant with global tendering and procured and commissioned both communication and EMC / SCADA equipment. For other upcoming projects, Applicant is procuring equipment / material on its own.

41. **Issue raised:** What would have been the price differential and other benefits / disadvantages if Applicant had to deal directly with

- a). The suppliers already fixed by POWERGRID, and
- b). Alternate suppliers?

APPLICANT:

- a) In order to maintain the existing communication system procured under unified scheme by POWERGRID, AMCs were awarded to the original equipment manufacturers and suppliers due to the reason that the equipment involves both hardware and software and problems/faulty cards can be rectified only by the original manufacturers.
- b) AMC can also be awarded to a third party by calling tenders. However, since the software and modules rectification is proprietary in nature, third party also has to make a tie-up with the original supplier which leads to cost hike due to involvement of the third party.

Applicant can also directly deal with the original suppliers for AMC and modules rectification. However, the original invoices are in the name of POWERGRID, which originally procured from MNCs and these invoices are essential for export / import of faulty / the equipment rectified modules to /from original equipment manufacturers / suppliers.

42. **Issue raised:** Normally, free maintenance could come as part of the bargain of installation of such systems. Why has all the decision-making been left to POWERGRID ? To what advantage ?

APPLICANT: The GOI has entrusted the responsibility of implementing the Unified Load Despatch and Communication Project to M/s POWERGRID in association with the constituents. The cost of total ULDC project for Southern Region is about Rs. 685 Crores and Applicant's share is about Rs.178 Crores.

M/s. POWERGRID awarded the contract for EMS / SCADA system to M/s. GE-HARRIS through global tenders. This is a consortium of GE Energy and Harris companies. The SCADA system under Southern Region ULDC scheme came into commercial operation from 01-02-2003. The system was under one year warranty from 01-02-2003 to 30-06-2004.

The project cost includes AMC of the system for one more year from 01-07-2004 to 30-06-2005 and was further extended till 31-12-2006 i.e. till the finalization of new AMC in December 2006.

On expiry of the AMC contract on 31-12-2006, M/s. POWERGRID concluded the long-term service agreement (for 3 years extendable by 2 more years at same rates) for maintenance of the EMS / SCADA system of entire Southern Region with M/s. GE excluding RTUs and with the consent of all the Southern Regional States. GE is awarded this AMC, so that a single source of responsible agency will be reliably available for maintenance and they have been maintaining the system satisfactorily so far. Also, the application software solutions in these computer systems are proprietary solutions of GE. It is the practice of the industry to award the AMC for getting trouble-free service of the valuable equipment and software packages, after the initial warrantee period. At all stages, the POWERGRID associated all the Southern Regional States in finalization of the AMC.

SLDC cost-related issues:

43. **Issue raised:** APGENCO, a State-owned generating company, commented that the SLDC's employee cost constitutes 2/3rds of the annual operating charges. The staff requirement claimed is abnormally high and it also caters to the needs of Applicant and DISCOMs. Hence the actual cost of staff employed for SLDC business alone be allowed.

APPLICANT: The same staffing plan as approved by APERC for SLDC business for 2005-06 and 2006-07 is proposed for 2007-08 and 2008-09. The staff of Energy Billing Centre (EBC) is included as per Regulations No. 1 of 2006 and 2 of 2006 of APERC.

44. **Issue raised:** Investment plan for SLDC business may be considered on actual requirement basis separating the requirement from Applicant's other business of transmission of electricity.

APPLICANT: The investment plan for 2007-08 and 2008-09 for SLDC business is based on actual requirement for three wings, namely, Grid Operation, Telecom and Energy Billing Centre (EBC) for their respective areas of operation.

Issues not relevant to SLDC:

45. In their obvious anxiety and concern for efficient functioning of the power system in the State, the objectors also raised certain issues like pending cases with Hon'ble Supreme Court, Appellate Tribunal for Electricity and this Commission, non-recovery of wheeling charges by the transmission and distribution licensees, capital investment in the Applicant's other business of transmission of electricity, conservation of electricity, etc. Since these issues do not relate to, and are not relevant for determination of, SLDC fees and charges, these are not being dealt with in this Order.

Part VII

STAFF PRESENTATION AND LICENSEE'S RESPONSE THERETO

46. During the public hearing held on 22.01.07 at Hyderabad, the Commission Staff presented to the Commission their analysis on Applicant's filings. The important issues raised by the Commission Staff and the Applicant's replies thereto are depicted in this Part.

Procedure of recovering expenditure

47. The Staff in their presentation first explained the methodology as per the Commission Regulation No.1 of 2006 for fixation of annual fee and monthly operating charges for SLDC. It was explained that the

expenditure on the capital is to be recouped by way of Annual fees, while Administration expenditure of the SLDC to be received by way of monthly charges.

Capital Cost:

48. The Staff pointed out that as per the Commission’s Regulation No.1 of 2006, the capital cost is to be calculated based on actual interest rate or 150 percent of the Bank Rate whichever is less. The Applicant has, however, taken 6.5 percent as the Bank Rate while the actual Bank Rate at present is only 6.0 percent. The Staff re-computed the capital cost using the current Bank Rate of 6.0 percent.
49. The capital cost as recomputed by the staff worked out to Rs 4.11 crs for FY2007-08 and Rs. 5.69 crs for FY 2008-09, as against Rs.4.25 crs. and Rs.5.30 crs respectively filed by the Applicant.

Expenditure:

50. The expenditure on repairs and maintenance is considered at prudent levels. Even if the actual expenditure is less than the approved expenditure the same shall be adjusted in future years. Details of capital cost, expenditure, capacity taken for estimating the annual fee and operating charges as projected by the Applicant and as considered appropriate by the Staff are shown in the table below:

Staff Analysis on SLDC Fees and Monthly charges

| Sl.No. | Subject / APPLICANT / Staff | 2007-08 | 2008-09 |
|-----------|---------------------------------|---------|---------|
| 1. | Capital Cost (in crores) | | |
| - | Applicant | 4.25 | 5.30 |
| - | Staff | 4.11 | 5.69 |
| 2. | Expenditure (in crores) | | |
| - | Applicant | 27.00 | 28.29 |
| - | Staff | 21.33 | 22.67 |
| 3. | Generating capacity (MW) | | |
| - | Applicant | 12083 | 12983 |
| - | Staff | 12402 | 15376 |

| | | | |
|-----------|---|------|------|
| 4. | Annual fees (Rs./MW) | | |
| - | Applicant | 3514 | 4081 |
| - | Staff | 3313 | 3702 |
| 5. | Monthly charges (Rs./MW/Monthly) | | |
| - | Applicant | 1862 | 1816 |
| - | Staff | 1433 | 1229 |

51. The Annual Fee estimated by the Staff comes to Rs.3313 /MW/pa for FY 2007-08 and Rs. 3702 /MW/pa for FY 2008-09. The operating charges are estimated as Rs.1433 /MW/month for FY 2007-08 and Rs. 1229 MW/month for FY 2008-09.

Important Issues:

52. Thus in the Staff analysis:

- (a). Capital Cost is recomputed considering the Bank Rate at 6.0 percent per annum;
- (b). Repair and maintenance expenditure has been considered at prudent levels;
- (c). the capacity on which the fee and charges are to be levied is revised; and
- (d). the fee and charges are less than those filed by the Applicant.

53. Staff have also argued that recovering expenses only from DISCOMs is not reasonable. These charges are to be levied on all persons using the SLDC services. The volume of capacity on which the fee and charges are to be levied is to be finalised.

Response of Applicant on Commission Staff Analysis:

54. In their response to the issues raised by the Commission Staff in their presentation during public hearing the Applicant has responded on the following major variations noticed from the presentation made by the staff of APERC:

| Particulars | | Unit | 2007-08 | 2008-09 |
|-------------|---|----------|----------|----------|
| I | Capital Cost | | | |
| | 1) As per filing | Rs. Crs. | 4.25 | 5.30 |
| | 2) As per Commission staff | | 4.11 | 5.69 |
| | 3) Variation (2-1) | | (-)0.14 | (+)0.39 |
| II | RBI Rate | | | |
| | 1) As per filing | % | 6.50 | 6.50 |
| | 2) As per Commission staff | | 6.00 | 6.00 |
| | 3) Variation (2-1) | | (-) 0.50 | (-) 0.50 |
| III | Operating Expenditure (O&M cost) | | | |
| | 1) As per filing | Rs. Crs. | 27.00 | 28.29 |
| | 2) As per Commission staff | | 21.33 | 22.67 |
| | 3) Variation (2-1) | | (-)5.67 | (-) 5.62 |
| IV | Generation capacity (projected for the control period) | | | |
| | 1) As per filing | MW | 12083 | 12983 |
| | 2) As per Commission staff | | 12402 | 15376 |
| | 3) Variation (2-1) Increase (+) / Decrease (-) | | (+)319 | (+)2393 |

Capital Cost:

55. The variation in the capital cost is mainly due to the methodology followed for categorization of fixed assets to calculate the capital cost. The methodology is acceptable to the Applicant. Hence no comments are offered.

RBI Rate:

56. As regards the use of RBI Rate the comments are:

- (i) The second variation is mainly in the RBI rate adopted by the Staff to arrive at the annual capital cost.
- (ii) In this connection it is to inform that Applicant had obtained the RBI Repo rate from Bank of Maharashtra. The RBI Repo rate, as on that date i.e., 29-11-2006 was 6.50% p.a. Accordingly, as provided in SLDC Regulations (No.1 of 2006), the 150% of the Bank Rate which works out to 9.75% as against projected rate of 10.64% for FY 2007-08 and 11.19% for FY 2008-09, (based on

loans actually drawn up to November 2006), is considered for the purpose of computation of capital cost.

- (iii) However, the Applicant now requests the APERC to consider the actual rate/ projected rate of interest for the purpose of computing the annual capital cost.

Justification for R&M works:

57. In staff analysis, the R&M cost of the SLDC ARR has been reduced, with the result that the Operating Charges have been decreased to Rs.21.33 Crs. and Rs.22.67 Crs. for the years 2007-08 and 2008-09 respectively as against Rs.27 Crs. and Rs.28.29 Crs. filed by the Applicant.
58. In this connection, it is to inform that the Repairs and Maintenance costs filed by the Applicant are Rs. 6.30 Crs and Rs. 6.28 Crs. These R&M costs are towards the regular payments for the AMC of the equipment for SLDC business. The list of the equipment and payment details are shown below:

| (Rs.Crs.) | | | |
|-----------|---|------------|------------|
| Sl.No | Name of the equipment | FY 2007-08 | FY 2008-09 |
| | Grid Operation | 2.79 | 2.79 |
| 1 | AMC of EMS /SCADA system | 2.60 | 2.60 |
| 2 | CMC SCADA system | 0.06 | 0.06 |
| 3 | AMC of UPS systems at backup SLDC | 0.005 | 0.005 |
| 4 | AMC of UPS systems at four ALDC's | 0.13 | 0.13 |
| | EBC System | 0.008 | 0.009 |
| 1 | AMC for EBC System | 0.008 | 0.009 |
| | Telecom | 3.50 | 3.48 |
| 1 | AMC Fibre Optic System | 0.35 | 0.40 |
| 2 | AMC of DMW & MUX | 0.22 | 0.25 |
| 3 | Procurement of ULDC | 0.15 | 0.05 |
| 4 | AMC and R&M for Field units in entire State | 2.78 | 2.78 |
| | Total | 6.30 | 6.28 |

59. The R & M amounts shown above are required for smooth functioning of SLDC operation and the amounts shown are the barest minimum. The above R&M expenditure works out to around 6% of the Gross value original cost of fixed assets of Rs. 97.37 Crs. as on 31-3-2007. The detailed justification is shown below.

The details of the R&M cost pertaining to Telecom wing:

60. In order to maintain the existing communication system VSAT and the Broad Band Communication system procured under Unified scheme by POWERGRID, AMC is awarded to the original equipment manufacturers and suppliers due to the reason that the equipment involves both hardware and software and problems/faulty cards which can be resolved / rectified only by the original manufacturers. AMC can also be awarded to third party by calling tenders. However the software and modules rectification is proprietary in nature, and the third party also has to make tie-up with the original supplier which leads to cost hike due to involvement of third party. Applicant can also directly deal with the original suppliers for AMC and modules rectification, but the original invoices are on the name of POWERGRID who have originally procured from MNCs and these invoices are essential for export/import of fault/rectified modules to/from original equipment Manufacturer /suppliers.

| Particulars | |
|---|--------------------|
| Bandwidth Charges for 299 VSATS | 60,22,540 |
| AMC charges for VSAT | 32,68,197 |
| Procurement of spares for PLCC | 34,00,000 |
| Upkeeping of PLCC equipment | 42,10,000 |
| Repairs of PLCC equipment | 10,00,000 |
| Repairs of OLTE & Microwave Equipment and MUX modules | 10,00,000 |
| Procurement of OLTE spares (ABB make) | 35,00,000 |
| Procurement of DMW and MUX spares | 20,00,000 |
| Procurement of Pirelli make spares from Powergrid | 15,00,000 |
| Other O&M and Miscellaneous Expenditure | 18,00,000 |
| Total | 2,77,00,737 |
| Or say Rs.2.77 Crs. | |

61. **Details of R&M Costs pertaining to Grid Operation wing:**

- (i) Applicant has entered into an MoU with POWERGRID in regard to Long Term Service Agreement (LTSA) for EMS / SCADA system of Andhra Pradesh for a period of three years from 01-01-2007. The AMC of EMS SCADA systems very much essential for load dispatch operations.

| | | (Rs.lakhs) |
|--|----------|------------|
| A.P Share of the AMC charges is about | | 183.000 |
| <u>Add</u> service Tax @ 12.24 % | | 22.399 |
| <u>Add</u> overhead charges for POWERGRID @ 10% (the rate is yet to be decided) | | 18.300 |
| Cost of FEP spares in the LTSA (Lumpsum) | | 30.000 |
| ----- | | |
| Total | (approx) | 253.699 |
| ----- | | |

- (ii) The balance amount of about Rs.6.3 lakhs of the proposed R&M cost of Rs.260.00 Lakhs for EMS / SCADA system of A.P. is for AMC of the equipment not covered in the above LTSA with POWERGRID, such as, printers, loggers, Plasma screens and PCs, etc. which are being processed separately with separate agencies.
- (iii) Further, the proposed expenditure of Rs.13 lakhs is for AMC of UPS systems in four Area Load Dispatch Centres i.e. Mamidipally, Nunna, Warangal and Chinakampally and it is very much essential for maintaining un-interrupted power supply to the various computer systems installed at the above ALDCs, which provide on-line data to SLDC.
- (iv) The expenditure of Rs.0.50 lakh is for the comprehensive AMC of 2 x 10 KVA UPS systems at Backup SLDC, Vidyut Soudha, Hyderabad, and the AMC is awarded for Rs.0.3 lakh recently.

- (v) The proposed expenditure of Rs.6.00 lakhs for the AMC of CMC SCADA system is yet to be taken up, as M/s.CMC is yet to furnish their proposal.

Details of R&M Costs pertaining to EBC wing:

62. Energy billing center is equipped with 3 nos HP Servers, 13 nos Workstations & PCs, 2 nos. old servers (used for backup), 2 nos. printers, 1 no. scanner and 3 nos. UPS; all these systems are in LAN with Switch and hubs. Apart from this, EBC is having 4 nos. Regional data collection centers (RDCC) and each RDCC contains 2 nos. Workstations and 1 no. printer.

Energy billing center is dealing with large quantum of data every month and all this data is to be maintained in the database for utilization for various other calculations etc. As such, the maintenance of all these equipment, AMC is very essential. Further the R&M cost mentioned in ARR filing with reference to EBC is the actual cost.

Justification for Installed Capacities:

63. The Commission Staff have shown the contracted capacities as 12402 MW and 15376 MW for FY 2007-08 and FY 2008-09 as filed by Applicant in Multi Year Tariff filings for Transmission Business. In the above filings, Applicant projected the NTPC Simhadri Stage II Power Plant capacity of 1000 MW for the year 2008-09 (100 %) exclusively for the State of Andhra Pradesh. It was later learnt that the capacity of the above plant is allocated to all the constituents of Southern States and AP has now 32.25% capacity allocated from the above plant i.e 323 MW.
64. The other major difference is in the capacities from the new IPPs from where the capacity of 300 MW and 1499 MW was taken for the years 2007-08 and 2008-09 for Transmission MYT filings expecting to get 20% and 100% gas availability for the above plants.

65. It was brought to the notice of APERC during public hearing on 22-1-2007 that even the 20% gas availability (projected for 2007-08 & 2008-09 in MYT filings of SLDC business) is not available in 2007-08 & 2008-09. The difference in generating capacities for FY 07-08 and FY 08-09 from that of MYT Transmission Tariff Order is 319 MW and 2393 MW, respectively.
66. In this connection, it is brought to the notice of the Hon'ble Commission that though 626 MW of Third Party Wheeling capacities for FY 2006-07 were projected in Multi Year Transmission Tariff Order, the actual capacities so far reached are only 477 MW. Thus the third party wheeling capacity of 477 MW is proposed for FY 2007-08 and FY 2008-09.
67. Thus, the reasons for adopting different capacities for SLDC from that of Transmission Tariff Order is due to consideration of realistic projections of NCEs, third party wheeled capacities, CGS (Simhadri Extn. share) and upcoming new IPPs.
68. The statement showing the variation in generation capacities adopted is enclosed as Annexure - I.
69. However, the AP share of 127 MW from KAIGA Atomic Power Plant is restored from January 2007. Thus the net decrease of generation capacity during 2007-08 and 2008-09 is (300 - 127) 173 MW. With this reduction of 173 MW, the net Generating Capacity during 2007-08 and 2008-09 will be 11910 MW & 12810 MW respectively.

Part-VIII

Commission's Analysis on Substantive Issues

70. In pursuance of Section 32(3) of the Electricity Act, 2003, the Commission made the following provision in clause 4.1 of its Regulation No.1 of 2006:

"Users shall pay to SLDC an annual fee and monthly operation charges leviable on the electricity transmitted, in MWs (mega-watts), subject to the charges for a minimum of one MW"

71. And the term, "User" has been defined in clause 2(i)(g) *ibid*, as follows:

"User" means the generating companies, Distribution Licensees or Trading Licensees as the case may be who use the intra-state transmission network for the purpose of selling / procuring electricity.

72. In this context, there are two issues that the Commission would like to dwell on: i) Payment of Annual fee and Operating charges, and ii) Generation capacity for fixing of the fee and charges per MW.

Collection of Fees and Charges

73. The Applicant as the operating agency of the SLDC has clarified that it is not billing all 'Users' on the ground that the issue of wheeling charges is *subjudice*.

74. The Commission wishes to clarify that SLDC operations are independent of Transmission and network operations and therefore, unless a competent court of law has specifically stayed, or stays, the levy and collection of these fees and charges or has pronounced or pronounces a contrary view, SLDC has a right to levy, and the 'Users' are required to pay, Annual Fee and Charges as specified by the Commission.

Generation Capacity

75. In its MYT order dated: 23.03.2006, in O.P.No.1 of 2006 on Transmission Tariffs and SLDC charges for FY 2006-07 the Commission had accepted the proposal of the Applicant to determine the tariffs for the control period for transmission and SLDC on the basis of allocated capacity. In the context of MYT framework, the proposal to reduce the capacity for fixing of annual fee and charges from 12,402 MW in FY 2007-08 to 12,083 MW and further to 11,910 MW and for FY 2008-09 from 15376 MW to 12,983 MW and thereafter to 12,810 MW is not acceptable, not being in line with MYT principles. The data of generation capacities as filed by the Applicant and as per the aforementioned Order dated: 23.03.2006 on

Transmission Tariffs for the FY 2007-08 to 2008-09 is provided in Annexure - I.

PART - IX

Determination of SLDC Charges for the Control Period

(FY 2007-08 and FY 2008-09)

76. The Commission has examined the ARR and the FPT (filing on proposed tariffs) of SLDC, and indicates herein the areas where the computations of the Applicant are found to be incorrect or unacceptable with reasons therefor and the Commission's alternative computations, to determine the ARR for the SLDC activities and accordingly fix the annual fee and operating charges for each year of the Control Period.

Annual Fee:

77. As stated earlier, the basis for determination of the annual fee is the Capital Cost to cover the repayment of principal and payment of interest on investments in a year, plus any residual capital cost of the past investments.
78. The capital cost has been estimated at Rs.4.25 crs for FY 2007-08 and Rs.5.30 crs for FY 2008-09 on investments of Rs. 26.37 crs and Rs.32.91crs for the respective years. The Applicant has projected the residual value of the past investments (opening balance) as on 01-04-2007 at Rs. 21.08 Crs. to which new investments of Rs. 5.29 Crs. for its various operations is added in FY 2007-08 and Rs. 10.16 Crs. in FY 2008-09.
79. The rate of interest for FY 2007-08 is taken at 10.64% and for FY 2008-09 is 11.19%. The Applicant has taken the Repo Rate of 6.5% for purpose of amortizing the investments. The number of years in which the investment proposed to be recovered has been taken as 10 years.

80. The annual fee and operating charges are calculated per MW on total Generation Capacity of 12083 MW and 12983 MW for FY 2007-08 and FY: 2008-009 respectively. Thus the Annual Fee proposed to be levied by the Applicant for the year 2007-08 is Rs. 3514 (per MW/p.a.) and for the year 2008-09 it is Rs. 4081 (per MW/p.a.) subsequently revised to Rs.3568/MW/annum spread over generation capacity of 11,910 MW and Rs.4137/MW/annum on 12,810 MW.
81. The Commission examined the investment proposals as filed in the ARR of SLDC in respect of Grid Operation, Commercial / EBC wing and Telecom wing. As per Regulation No.1 of 2006, the Applicant is expected to file a complete investment plan for the control period, by not less than 120 days before commencement of the control period. The investment plan must include, inter-alia, the sources of funds for investment. The Commission is unable to accept the investment details in the filings as an investment plan, as envisaged in the said Regulation No.1 of 2006.
82. However, considering the limited sources of revenue for SLDC and criticality of communication system for the day-to-day operation of SLDC, the Commission while accepting the investment proposal of the Applicant of Rs.4.18 Crs for FY 2007-08 and Rs.9.77 Crs for FY 2008-09 directs that:
- For the next control period the SLDC shall file by 30th November 2008, a detailed investment plan that envisages the development of a modern communication system to meet its requirements on a long-term basis taking into account all alternate options, including hiring of bandwidth, etc.*
83. Regarding investments proposed by the Applicant for Grid Operation and Energy Billing Centre the proposals of Rs.0.45 cr. for FY 2007-08 and Rs.0.25 cr. for FY 2008-09 for Grid Operations and Rs.0.66 cr. for

FY 2007-08 and Rs.0.14 cr. for FY 2008-09 for Commercial/EBC wing are accepted.

**Capital Investment for the First Control Period
(Rs.Crs.)**

| | 2007-08 | 2008-09 |
|-----------------------------|----------------|----------------|
| Opening Balance | 21.08 | 22.75* |
| New Investment | | |
| Grid Operations | 0.45 | 0.25 |
| Commercial /EBC | 0.66 | 0.14 |
| Telecom | 4.18 | 9.77 |
| Total (Rs. Crs) | 5.29 | 10.16 |
| Grand Total –Rs. Crs | 26.37 | 32.91 |

*Opening Balance plus new investment in FY 2007-08 minus amortized amount

84. The Opening Balance of the residual values of the assets as on 01-04-2007 i.e. Rs. 21.08 Crs. as filed by the Applicant is adopted, pending submission of Statement of Accounts segregating the assets and liabilities between SLDC and the Applicant's business of transmission of electricity. In this regards, the Commission directs that:

The Applicant shall segregate and maintain separate accounts in accordance with the guidelines outlined in Regulation No.3 of 2005 regarding its licensed business of transmission of electricity and the SLDC and file with the Commission an Allocation Statement between the two activities, by 30th November 2008.

85. The parameters taken by the Commission for fixing the Annual Fee are:
- i) Prevailing Bank Rate (RBI) of 6.00%
 - ii) Generation Capacity considered in the MYT Order dated: 23.03.2006 in O.P.No.1 of 2006 on Transmission Tariff and SLDC charges
86. As per the methodology outlined in Regulation No.1 of 2006 the Annual Fee works out to Rs.3313.27/MW/pa for 2007-08 and Rs. 3701.99 MW/pa for FY 2008-09 as given in the table below. Detailed calculations are given in the Annexure II.

Annual fee of SLDC business for the First Control period

| Particulars | Unit | 2007-08 | | 2008-09 | |
|---------------------------------|------------|----------------|----------------|----------------|----------------|
| | | Applicant | APERC | Applicant | APERC |
| Total Capacity | MW | 11910 | 12401.59 | 12810.00 | 15375.79 |
| Annual Fee (per MW/p.a.) | Rs. | 3568.00 | 3313.27 | 4137.00 | 3701.99 |

Annual Operating Charges:

87. Operating Charges include Employee Cost, Administration and General Charges, Repairs and Maintenance Expenses (R&M) and other expenses. All the expenses except R&M expenses, as proposed by the Applicant are accepted by the Commission both for FY 2007-08 and FY 2008-09. The R&M costs of Rs. 6.30 Crs. filed by the Applicant for FY 2007-08 and Rs.6.28 Crs. for FY 2008-09 are not commensurate with the size of assets held by SLDC and its business operations.
88. The Applicant in its filings has stated that the high R&M expenses proposed in the ARR are on account of AMC charges entered into by POWERGRID with the equipment manufacturers and transferred to SEBs (State Electricity Boards, the APSEB being the predecessor-in-interest of the Applicant). From the AMCs entered, into by POWERGRID on behalf of SEBs, it is seen that the Applicant's share of such charges for the 3-year period 2007-08 to 2009-10 is Rs.6.01 Crs. or Rs.2.01 Crs. per annum. The Applicant therefore needs to re-examine its requirement for R&M which must also be consistent with modernization plan that is yet to be submitted by it to the Commission.
89. As of now, the Commission considers it appropriate to permit the R&M expenses equivalent to 3% of original cost of fixed assets as furnished by the Applicant which comes to Rs.2.92 Crs. (duly covering the aforementioned AMC cost) and the same has been provided for FY 2007-08 and FY 2008-09 respectively.

| Annual Operating charges for SLDC for the first control period FY 2007-08 and FY 2008-09 | | | | | |
|---|-----------------------------------|------------------|--------------|------------------|--------------|
| (Rs. Crs.) | | | | | |
| Sl. No. | Description | 2007-08 | | 2008-09 | |
| | | Applicant | APERC | Applicant | APERC |
| | Annual Operating Charges | | | | |
| 1 | Employee costs | 18.07 | 18.07 | 19.19 | 19.19 |
| 2 | Administration & General expenses | 2.59 | 2.59 | 2.77 | 2.77 |
| 3 | Repairs & Maintenance costs | 6.30 | 2.92 | 6.28 | 2.92 |
| 4 | Other expenses | 0.04 | 0.04 | 0.04 | 0.04 |
| | Total Expenditure | 27.00 | 23.62 | 28.29 | 24.92 |

90. The computation of Operating Charges proposed by the Applicant (after revision) and approved by APERC are given in the table below. Detailed calculations are given in Annexure - II.

Operating Charges for the First Control Period

| Operating Charges for first Control Period (Rs/MW/p.a) | | | | | |
|---|-------------------|------------------|----------------|------------------|----------------|
| Description | | 2007-08 | | 2008-09 | |
| | | Applicant | APERC | Applicant | APERC |
| Annual Operating Charges (Rs. Crs) | a | 27.00 | 23.62 | 28.29 | 24.92 |
| Total Generating Capacity MW | b | 11910.00 | 12401.59 | 12810.00 | 15375.79 |
| Operating charges (Rs/MW/month) | (a / b)/12 | 1889.17 | 1587.16 | 1840.36 | 1350.67 |

91. The Revenue Requirement, Annual Fee, Annual Operating Charges etc., proposed by Applicant and approved by APERC for FY 2007-08 and FY 2008-09 are summarized in the table below:

SLDC charges for FY 2007-08 & FY 2008-09

| Sl.No. | Particulars | Unit | 2007-08 | | 2008-09 | |
|---------------|-----------------------------------|-----------------|------------------|-----------------|------------------|-----------------|
| | | | Applicant | APERC | Applicant | APERC |
| 1. | Annual Revenue Requirement | Rs. Crs. | 31.25 | 27.73 | 33.59 | 30.61 |
| a. | Capital Cost Amortized | Rs. Crs. | 4.25 | 4.11 | 5.30 | 5.69 |
| b. | Operating Charges | Rs. Crs. | 27.00 | 23.62 | 28.29 | 24.92 |
| 2. | Total Generating Capacity | MW | 11910.00 | 12401.59 | 12811.00 | 15375.79 |

| | | | | | | |
|-----------|---------------------------------|-----------|----------|----------|----------|----------|
| a. | DISCOM Capacity | MW | 11433.00 | 11628.70 | 12334.00 | 14465.00 |
| b. | Third Party / OA | MW | 477.00 | 772.89 | 477.00 | 910.79 |
| 3. | SLDC Charges | | | | | |
| a | Annual Fee (per MW/p.a.) | Rs. | 3568.00 | 3313.27 | 4137.00 | 3701.99 |
| b | Operating charges (Rs/MW/month) | (1b/2)/12 | 1889.17 | 1587.16 | 1840.36 | 1350.67 |

Notes:

- 1) The SLDC charges (Annual Fee & Operating Charges) shall be paid by Generating Companies (including Captive Generating Plants), Distribution Licensees and Trading Licensees using the intra-State Transmission Network.
 - 2) The Annual Fee shall be paid by all the Users in advance in two equal installments, by 10th of April and by 10th of October every financial year starting from 2007-08 onwards:
Provided that in case where the usage of intra-state transmission system commences after the 10th of April or the 10th October of a year, the fee for the period up to 30th September of the year and 31st March of the subsequent year respectively shall be required to be paid before the commencement of intra-state transmission.
 - 3) The operating charges shall be paid monthly.
 - 4) If the Fee and Charges as the case may be are not paid by the due date(s), surcharge at the rate of two percent per month shall be levied on the unpaid amounts.
 - 5) An amount equivalent to two months' Operating Charges shall have to be deposited in advance by every User as security against default in payment of Operating Charges.
92. The aforementioned fees and charges for the year 2007-08 shall be effective from 1st April, 2007 and those for 2008-09 with effect from 1st April, 2008.

This Order is signed on the 7th day of March, 2007.

**Sd/-
(R.RADHA KISHEN)
MEMBER**

**Sd/-
(SURINDER PAL)
MEMBER**

**Sd/-
(K.SWAMINATHAN)
CHAIRMAN**

ANNEXURES

Annexure-1
Generation Capacities
(Reference : Paragraphs 68 and 75 of the Order)

| Sl. No. | Source of Power | Plant Capacity | A.P.share | As per MYT Order* | | As per the filings | | Difference | |
|----------|------------------------|----------------|-----------|-------------------|-----------------|--------------------|--------------|------------|----------|
| | | | | 2007-08 | 2008-09 | 2007-08 | 2008-09 | 2007-08 | 2008-09 |
| | | | | (MW) | (MW) | (MW) | (MW) | (MW) | (MW) |
| I | APGENCO | 7177.26 | | 7,126.86 | 7,704.86 | 7,127 | 7,705 | 0 | 0 |
| | VTPS I | 420 | 100.00 % | 420.00 | 420 | 420 | 420 | 0 | 0 |
| | VTPS II | 420 | 100.00 % | 420.00 | 420 | 420 | 420 | 0 | 0 |
| | VTPS III | 420 | 100.00 % | 420.00 | 420 | 420 | 420 | 0 | 0 |
| | RTPP I | 420 | 100.00 % | 420.00 | 420 | 420 | 420 | 0 | 0 |
| | KTPS A | 240 | 100.00 % | 240.00 | 240 | 240 | 240 | 0 | 0 |
| | KTPS B | 240 | 100.00 % | 240.00 | 240 | 240 | 240 | 0 | 0 |
| | KTPS C | 240 | 100.00 % | 240.00 | 240 | 240 | 240 | 0 | 0 |
| | KTPS D | 500 | 100.00 % | 500.00 | 500 | 500 | 500 | 0 | 0 |
| | RTS B | 62.5 | 100.00 % | 62.50 | 62.5 | 63 | 63 | 0 | 0 |
| | RTPP-II | 420 | 100.00 % | 420.00 | 420 | 420 | 420 | 0 | 0 |
| | VTPS IV | 500 | 100.00 % | | 500 | | 500 | 0 | 0 |
| | TOTAL THERMAL | 3382.5 | | 3,382.50 | 3,882.50 | 3,383 | 3,883 | 0 | 0 |
| | MACHKUND PH AP Share | 120 | 70.00% | 84.00 | 84 | 84 | 84 | 0 | 0 |
| | TUNGBHADRA PH AP Share | 72 | 80.00% | 57.60 | 57.6 | 58 | 58 | 0 | 0 |
| | USL | 240 | 100.00 % | 240.00 | 240 | 240 | 240 | 0 | 0 |
| | LSR | 460 | 100.00 % | 460.00 | 460 | 460 | 460 | 0 | 0 |
| | DONKARAYI | 25 | 100.00 % | 25.00 | 25 | 25 | 25 | 0 | 0 |
| | SSLM | 770 | 100.00 % | 770.00 | 770 | 770 | 770 | 0 | 0 |
| | SSLM LCPH | 900 | 100.00 % | 900.00 | 900 | 900 | 900 | 0 | 0 |
| | NSPH | 815.6 | 100.00 % | 815.60 | 815.6 | 816 | 816 | 0 | 0 |
| | NSRCPH | 90 | 100.00 % | 90.00 | 90 | 90 | 90 | 0 | 0 |
| | NSLCPH | 60 | 100.00 % | 60.00 | 60 | 60 | 60 | 0 | 0 |
| | POCHAMPAD PH | 27 | 100.00 % | 27.00 | 27 | 27 | 27 | 0 | 0 |
| | NIZAMSAGAR PH | 10 | 100.00 % | 10.00 | 10 | 10 | 10 | 0 | 0 |

* The Commission's order dated:23.03.2006 in O.P.No.1 of 2006 on Transmission Tariffs for 2006-07 to 2008-09 and SLDC charges for 2006-07.

| | | | | | | | | | |
|--|--|-----------------|----------|-----------------|------------------|---------------|---------------|------------|--------------|
| | PABM | 20 | 100.00 % | 20.00 | 20 | 20 | 20 | 0 | 0 |
| | MINI HYDRO&OTHERS | 14.16 | 100.00 % | 14.16 | 14.16 | 14 | 14 | 0 | 0 |
| | SINGUR | 15 | 100.00 % | 15.00 | 15 | 15 | 15 | 0 | 0 |
| | JURALA HES | 156 | 100.00 % | 156.00 | 234 | 156 | 234 | 0 | 0 |
| | TOTAL HYDRO | 3794.76 | | 3,744.36 | 3,822.36 | 3,744 | 3,822 | 0 | 0 |
| II | Central Generating Stations (CGS) | 7410 | | 2,649.46 | 3,649.46 | 2,649 | 2,972 | 0 | 677 |
| | NTPC(SR) Ramagundam- U1-U6 | 2100 | 32.25% | 677.25 | 677.25 | 677 | 677 | 0 | 0 |
| | NTPC (SR) Ramagundam -U7 | 500 | 32.14% | 160.70 | 160.7 | 161 | 161 | 0 | 0 |
| | NLC TS-II Stage-I | 630 | 16.78% | 105.71 | 105.714 | 106 | 106 | 0 | 0 |
| | NLC TS-II Stage-II | 840 | 22.79% | 191.44 | 191.436 | 191 | 191 | 0 | 0 |
| | NPC-MAPS | 340 | 9.34% | 31.76 | 31.756 | 32 | 32 | 0 | 0 |
| | Talcher Stage 2 | 2000 | 24.13% | 482.60 | 482.6 | 483 | 483 | 0 | 0 |
| | NTPC- Simhadri | 1000 | 100.00 % | 1,000.00 | 1000 | 1,000 | 1,000 | 0 | 0 |
| | Simhadri expansion | 1000 | 32.25% | | 1000 | | 323 | 0 | 678 |
| III | Joint sector | 272 | | 58.79 | 58.79 | 59 | 59 | 0 | 0 |
| | APGPCL-I | 100 | 16.00% | 16.00 | 16 | 16 | 16 | 0 | 0 |
| | APGPCL-I | 172 | 24.88% | 42.79 | 42.79 | 43 | 43 | 0 | 0 |
| IV | IPPS | 2495.62 | | 1,296.42 | 2,495.62 | 1,296 | 1,296 | 0 | 1,199 |
| | GVK | 216.82 | 100.00 % | 216.82 | 216.82 | 217 | 217 | 0 | 0 |
| | Spectrum | 208.31 | 100.00 % | 208.31 | 208.31 | 208 | 208 | 0 | 0 |
| | Kondapalli | 351.49 | 100.00 % | 351.49 | 351.49 | 351 | 351 | 0 | 0 |
| | BSES | 220 | 100.00 % | 220.00 | 220 | 220 | 220 | 0 | 0 |
| | GVK Extension | 220 | 100.00 % | 44.00 | 220 | 44 | 44 | 0 | 176 |
| | Vemagiri | 370 | 100.00 % | 74.00 | 370 | 74 | 74 | 0 | 296 |
| | Gowthami | 464 | 100.00 % | 92.80 | 464 | 93 | 93 | 0 | 371 |
| | Konaseema | 445 | 100.00 % | 89.00 | 445 | 89 | 89 | 0 | 356 |
| V | OTHERS | 796.272 | | 497.16 | 556.26 | 475 | 475 | 23 | 82 |
| | LVS | 36.8 | 100.00 % | 36.80 | 36.8 | 37 | 37 | 0 | 0 |
| | Non Conventional | 694.92 | | 443.16 | 502.26 | 421 | 421 | 23 | 82 |
| | Srivathsa | 17.202 | 100.00 % | 17.20 | 17.202 | 17 | 17 | 0 | 0 |
| | RVK Energy Pvt Ltd | 20.31 | 0% | 0.00 | 0 | 0 | 0 | 0 | 0 |
| | Isolated Gas wells | 27.04 | 0% | 0.00 | 0 | 0 | 0 | 0 | 0 |
| | Total | 18,151 | | 11,629** | 14,465*** | 11,606 | 12,507 | 23 | 1,958 |
| VI | Third Party Sales | | | 772.89 | 910.79 | 477 | 477 | 296 | 434 |
| | Grand Total | 18151.15 | | 12,402 | 15,376 | 12,083 | 12,983 | 319 | 2,392 |
| ** NPDCL – 1942.16 MW, EPDCL – 1998.87 MW, SPDCL – 2695.46 MW, CPDCL – 4992.21 MW, Total DISCOMSs:11628.70 MW | | | | | | | | | |
| *** NPDCL – 2440.36 MW, EPDCL – 2468.43 MW, SPDCL – 3345.87 MW, CPDCL – 6210.34 MW, Total DISCOMSs:14465.00 MW | | | | | | | | | |

Annexure-II Calculations

(Reference: Paragraphs 86 and 90 of the Order)

Particulars of Opening Value, New Investment, Amortized value, Un-amortized value
Amortization of Capital Cost for the First Control Period

(Rs.Crs.)

SLDC

| Year | Op. value | New Invst. | Total value (Op. + New Invs.) | Amortized value per year (Annuity Factor x Total value) | Un-Amortized value at the end of the year | Remarks |
|--------------|-----------|------------|-------------------------------|---|---|--|
| 2007-08 | 21.08 | 5.29 | 26.37 | 4.11 | 22.26 | Rs. 4.11 Crs amortized value per year will terminate in the year 2016-17 |
| 2008-09 | 22.26 | 10.16 | 32.42 | 1.58 | 30.84 | Rs.1.58Crs. amortized value per year will terminate in the year 2017-18 |
| Total | | | | 5.69 | | |

Particulars of Capital Investment proposed by Applicant and approved by APERC

Capital Investment Plan during the First Control Period

(Rs.Crs.)

| Particulars | 2007-08 | 2008-09 |
|------------------------|--------------|--------------|
| Opening Balance | 21.08 | 22.75 |
| New Investment | | |
| Grid Operations | 0.45 | 0.25 |
| Commercial/EBC | 0.66 | 0.14 |
| Telecom | 4.18 | 9.77 |
| Total (Rs. Crs) | 5.29 | 10.16 |
| Grand Total | 26.37 | 32.91 |

Annual fee of SLDC business for the First Control period

| Particulars | Unit | 2007-08 | | 2008-09 | |
|--|------------|----------------|----------------|----------------|----------------|
| | | Applicant | APERC | Applicant | APERC |
| Total Capacity | MW | 11910.00 | 12401.59 | 12810.00 | 15375.79 |
| Total Investment (OB of Net fixed assets + New investment) | Rs. Crs. | 26.37 | 26.37 | 32.91 | 32.42 |
| Bank Rate | % | 9.75% | 9.00% | 9.75% | 9.00% |
| Tenure | Years | 10 | 10 | 10 | 10 |
| Capital Cost Amortized | Rs.Crs | 4.25 | 4.11 | 5.30 | 5.69 |
| Annual Fee (per MW/p.a.) | Rs. | 3568.00 | 3313.27 | 4137.00 | 3701.99 |

Operating Charges

| Annual Operating charges for SLDC for the first control period FY 2007-08 and FY 2008-09 | | | | |
|---|--------------|--------------|--------------|--------------|
| (Rs. Crs.) | | | | |
| Description | 2007-08 | | 2008-09 | |
| | Applicant | APERC | Applicant | APERC |
| <u>Annual Operating Charges</u> | | | | |
| Employee costs | 18.07 | 18.07 | 19.19 | 19.19 |
| Administration & General expenses | 2.59 | 2.59 | 2.77 | 2.77 |
| Repairs & Maintenance costs | 6.30 | 2.92 | 6.28 | 2.92 |
| Other expenses | 0.04 | 0.04 | 0.04 | 0.04 |
| Total Expenditure | 27.00 | 23.62 | 28.29 | 24.92 |

Operating Charges for first Control Period (Rs/MW/p.a)

| Description | | 2007-08 | | 2008-09 | |
|--|-----------------|----------------|----------------|----------------|----------------|
| | | Applicant | APERC | Applicant | APERC |
| Annual Operating Charges (Rs.Crs.) | a | 27.00 | 23.62 | 28.29 | 24.92 |
| Total Generating Capacity MW | b | 11910.00 | 12401.59 | 12810.00 | 15375.79 |
| Operating charges (Rs/MW/month) | (a/b)/12 | 1889.17 | 1587.16 | 1840.36 | 1350.67 |

SLDC charges for FY: 2007-08 & FY: 2008-09

| Sl.No. | Particulars | Unit | 2007-08 | | 2008-09 | |
|--------|---------------------------------|-----------|-----------|----------|-----------|----------|
| | | | Applicant | APERC | Applicant | APERC |
| 1. | Annual Revenue Requirement | Rs. Crs. | 31.25 | 27.73 | 33.59 | 30.61 |
| a. | Capital Cost Amortized | Rs. Crs. | 4.25 | 4.11 | 5.30 | 5.69 |
| b. | Operating Charges | Rs. Crs. | 27.00 | 23.62 | 28.29 | 24.92 |
| 2. | Total Generating Capacity | MW | 11910.00 | 12401.59 | 12811.00 | 15375.79 |
| a. | DISCOM Capacity | MW | 11433.00 | 11628.70 | 12334.00 | 14465.00 |
| b. | Third Party / OA | MW | 477.00 | 772.89 | 477.00 | 910.79 |
| 3. | SLDC Charges | | | | | |
| a | Annual Fee (per MW/p.a.) | Rs. | 3568.00 | 3313.27 | 4137.00 | 3701.99 |
| b | Operating charges (Rs/MW/month) | (1b/2)/12 | 1889.17 | 1587.16 | 1840.36 | 1350.67 |

Annexure-III

List of Objectors on filings of Applicant

(Reference: Para 10 of the Order)

| Sl.No. | Name of the Objector |
|---------------|--|
| 1. | Sri B.V.Raghavulu, Secretary, A.P.State Committee, Communist Party of India (Marxist), |
| 2. | Sri P.Madana Mohana Rao, CORE, Loksatta |
| 3. | Sri G.Narendranath, EC Member, Rashtriya Raithu Seva Samithi |
| 4. | Sri M.Venugopala Rao, Special Correspondent, Prajasaki Telugu Daily |
| 5. | Er.A.Punna Rao, F.I.E., Chartered Engineer |
| 6. | Sri K.Raghu, Adarsh Nagar, Hyderabad - 63. |
| 7. | APGENCO, Vidyut Soudha, Hyderabad. |
| 8. | Sri Katuru Harikishore Kumar Reddy, President, Coastal Districts, Bharatiya Kisan Sangh |

Acronyms and Abbreviations

| | |
|--------------------|--|
| ABT | Availability Based Tariff |
| ALDCs | Area Load Dispatch Centres |
| AMC | Annual maintenance Contract |
| APERC | Andhra Pradesh Electricity Regulatory Commission |
| ARR | Annual Revenue Requirement |
| CC | Capital Cost |
| CGS | Central Generating Stations |
| Crs | Crores |
| DISCOMs | Distribution Companies |
| EMS | Energy Management System |
| EBC | Energy Billing Centre |
| FPT | Filing on Proposed Tariffs |
| GoAP | Government of Andhra Pradesh |
| GoI | Government of India |
| IPPs | Independent Power Producers |
| LD center | Load Despatch Centre |
| LTSA | Long Term Service Agreement |
| MNCs | Multi- National Companies |
| MWs | Mega-watts |
| MYT | Multi-Year Tariff |
| NCE | Non- Conventional Energy |
| NLDC | National Load Dispatch Centre |
| NTPC | National Thermal Power Corporation Ltd. |
| O & M | Operation and Maintenance |
| OA | Open Access |
| PLCC | Power Line Carrier Communication |
| POWERGRID | Power Grid Corporation of India Limited |
| R&M | Repairs and Maintenance |
| RDCC | Regional data collection centers |
| RLDC | Regional Load Despatch Centre |
| RTUs | Remote Terminal Units |
| SAC | State Advisory Committee |
| SCADA | Supervisory Control and Data Acquisition |
| SEMs | Special Energy Meters |
| STU | State Transmission Utility |
| ULDC | Unified Load Despatch Centre |
| UPS systems | Uninterrupted Power Supply Systems |

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