

केन्द्रीय विद्युत विनियामक आयोग

CENTRAL ELECTRICITY REGULATORY COMMISSION



Dr. Pramod Deo Chairperson

D.O. No. 2/8/Policy(Statutory Advice)/2009-CERC 1st June, 2010

Subject: Statutory advice of CERC regarding timeframe for tariff based competitive bidding.

Dear Shri Uma Shambar

Please refer to Ministry's Ref. No. 23/2/2005-R&R (Vol.V) dated April 2010 seeking advice of Commission on the proposal of NTPC Limited for amendment in Tariff Policy to permit cost plus tariff structure for public sector undertakings beyond the present deadline of January 2011. Similar requests for extension of this deadline in respect of hydro projects from NHPC and SJVNL have also been received in Commission.

- 2. This matter has been carefully considered by the Commission.
- 3. Clause 5.1 of the Tariff Policy provides that from January 2011 onwards all future procurement of power by distribution licensees should be done through tariff based competitive bidding even from Government/State owned entities. A similar provision exists for procuring transmission services also.
- 4. The Commission has also noted the recent judgement of Appellate Tribunal for Electricity in Appeal No. 106 & 107 delivered on 31st March 2010 (copy enclosed) in which the Tribunal while holding that the State Commissions have discretionary powers to give approval for the PPA or to direct the distribution licensee to resort to the competitive bidding process in accordance with the Tariff Policy, has also laid down the relevant criteria for such a decision. The Tribunal has held that the State Commission should direct the distribution licensee to carry out power procurement through competitive bidding process in cases where the rates under negotiated agreements are high. In other words, the tariff based competitive bidding route is a preferred one if it is leading to lower tariffs which obviously is in the interest of the consumers.
- 5. The Commission has carried out an internal preliminary exercise for comparing the tariffs obtained through competitive route with those being allowed under cost plus tariff structure (copy of analysis enclosed). This preliminary analysis indicates that the tariffs being obtained through competitive bidding are lower than the levelised tariff under cost plus structure. This tentative conclusion holds true largely even in case of Case-1 bids if one takes into account the fuel transportation or transmission costs and the risks to developers associated with seeking open access and other statutory clearances. To establish this finding further, the Commission has undertaken a more detailed exercise also. The Commission has also started an exercise to devise a benchmark tariff which would be periodically updated. Such a benchmark tariff would be

तीसरी मंजिल, चन्द्रलोक बिल्डिंग, 36, जनपथ, नई दिल्ली—110001 3rd Floor, Chanderlok Building, 36, Janpath, New Delhi-110 001 Phone : 91-11-23753911 Fax : 91-11-23753923 E-mail : chairman@cercind.gov.in arrived at based on the tariffs obtained through competitive procurement and would serve useful purpose for decision taking by the State Electricity Regulatory Commissions.

- 6. Based on the results of preliminary analysis as referred to above, Commission in exercise of its statutory powers under section 79(2) of the Act, hereby advises the Central Government that the deadline of January 2011 for completing the transition to procurement of power through tariff based competitive bidding even from State/Government owned entities should not be extended any further except in the following cases:
 - a) Cost plus tariff could continue for large sized multipurpose storage hydro projects in view of the complexities and larger construction risks involved.
 - b) In view of the likely peaking shortages in India for a number of years from now, there is a need to give a special policy support for setting up of peaking supply stations which could be based on open cycle based stations, IC engine based technology or pumped storage plants. CERC is in the process of modifying its tariff regulations for the period 2009-14 to incorporate special tariff structure for such peaking plants. In view of the fact that such peaking plants would be a new phenomenon in India and would require assurance of cost plus tariff to assure them recovery of their fixed cost fully, such peaking stations could be permitted on cost plus tariff structure for State/Government owned entities till the end of current tariff control period of CERC i.e. 31st March, 2014.
- 7. The Commission would also suggest the Central Government to review the various guidelines and other frameworks applicable to public sector undertakings with a view to give them adequate autonomy and decision taking authority so as to enable these entities to effectively participate in tariff based competitive bidding.

Best regards.

Yours sincerely,

(Dr. Pramod Deo)

Encl: As above

Shri P. Uma Shankar Secretary (Power) Ministry of Power Shram Shakti Bhawan Rafi Marg New Delhi – 110 001

Appellate Tribunal for Electricity (Appellate Jurisdiction)

Appeal No. 106 & 107 of 2009.

Dated: 31st March 2010

Present: Hon'ble Mr. Justice M. Karpaga Vinayagam, Chairperson

Hon'ble Mr. H.L. Bajaj, Technical Member

Appeal No. 106 of 2009

In the matter of:

(1) BSES Rajdhani Power Ltd. BSES Bhawan, Nehru Place New Delhi-110 019

....Appellant

Versus

Delhi Electricity Regulatory Commission 1. Vinimak Bhawan, C-Block Shivalik, Malviya Nagar, New Delhi-110 017

.... Respondent-1

2. New Delhi Power Limited **Sub-Station Building** Hudson Lines, Kingsway Camp Delhi-110 009

.... Respondent-2

3. Maithon Power Limited **NBCC** Tower, IIIrd Floor, Bhikaji Cama Place New Delhi-110 066

.... Respondent-3

4. BSES Yamuna Power Limited Shakti Kiran Building Karkardooma New Delhi-110 065

.... Respondent-4

Counsel for the Appellant(s)

Mr. V.P. Singh & Mr. Anuj Berry

Counsel for the Respondent(s)

Mr. Amit Kapur & Mr. Apporva

Misra for R-2

Mr. Meet Malhotra & Mr. Ravi S.

Singh for R-1

Mr. Sitesh Mukherjee & Mr. Sakya

Singha Chaudhuri for R-3

Appeal No. 107 of 2009

In the matter of:

(2) BSES Yamuna Power Ltd. BSES Bhawan, Nehru Place New Delhi-110 019

.... Appellant

Versus

1. Delhi Electricity Regulatory Commission Vinimak Bhawan, C-Block Shivalik, Malviya Nagar, New Delhi-110 017

.... Respondent-1

2. New Delhi Power Limited Sub-Station Building Hudson Lines, Kingsway Camp Delhi-110 009

.... Respondent-2

3. Maithon Power Limited

NBCC Tower,

IIIrd Floor, Bhikaji Cama Place

New Delhi-110 066

.... Respondent-3

4. BSES Rajdhani Power Limited

Shakti Kiran Building

Karkardooma

New Delhi-110 065

.... Respondent-4

Counsel for the Appellant(s)

Mr. V.P. Singh & Mr. Anuj Berry

Counsel for the Respondent(s)

Mr. Amit Kapur & Mr. Apporva

Misra for R-2

Mr. Meet Malhotra & Mr. Ravi S.

Singh for R-1

Mr. Sitesh Mukherjee & Mr. Sakya

Singha Chaudhuri for R-3

JUDGMENT

AS PER HON'BLE MR. JUSTICE M. KARPAGA VINAYAGAM, CHAIRPERSON

1. BSES Rajdhani Power Limited and BSES Yamuna Power Limited have filed these two separate appeals in Appeal No. 106 of 2009 and Appeal No. 107 of 2009 challenging the order passed by the Delhi State Electricity Regulatory Commission on 30.04.2009 allowing the petition filed by North Delhi Power Ltd. praying for the grant of approval to the Power Purchase Agreement entered into between North Delhi Power Limited (NDPL(R-2) and Maithon Power Limited (MPL/R-3).

- 2. Since the order impugned dated 30.04.2009 challenged by the two different parties in two different Appeals is a common order, we are rendering this common judgment disposing of both these Appeals.
- 3. The short facts leading to the filing of these appeals are as follows:
 - Both the Appellants are engaged in the business of distribution of electricity and retail supply of electricity in the specified areas in Delhi. NDPL (R-2) and MPL (R-3) are group companies. Earlier MPL(R-3) filed a petition on 29.01.2006 before the Central Commission seeking for exemption from applicable requirement of competitive procurement process of power under clause 5.1 of the National Tariff Policy (NTP). The Central Commission, however, by the order dated 17.01.2007 directed the MPL (R-3) to approach the Central Government to seek for clarification whether the MPL (R-3), the utility falls outside the scope of clause 5.1 of

(i)

- NTP. However, MPL (R-3) did not approach the Central Government seeking for the said clarification.
- (ii) There upon, North Delhi Power Ltd. entered into a Power Purchase Agreement with Mython Power Ltd. for the supply of power on that basis. NDPL (R-2) filed a petition in No. 60 of 2008 before the Delhi Electricity Regulatory Commission (R-1) seeking approval of the said Power Purchase Agreement (PPA) entered into between NDPL (R-2) and MPL (R-3) for supply 300 MW power by MPL (R-3) to NDPL (R-2) on a long-term basis.
- (iii) During the pendency of the said petition, the Appellants being the distribution companies and stake holders filed the Objection Petition before the State Commission mainly contending that the approval sought by the NDPL (R-2) is in violation of the mandatory nature of clause 5.1 of National Tariff Policy (NTP) which prescribes for bidding process for procurement of power by the distribution licensee.

SSR Page 5 of 39

- (iv) However, the Delhi State Commission passed the impugned order dated 30.04.2009 approving the petition filed by the NDPL (R-2) and granted the approval for the PPA entered into between NDPC (R-2) and MPL (R-3). Aggrieved over this order, both the Appellants have filed these 2 separate Appeals, Appeal No. 106 of 2009 and Appeal No. 107 of 2009.
- 4. The Ld. Counsel for the Appellants would make the foll owing contentions challenging the order impugned.
 - approval to the PPA by holding that it was not mandatory for the NDPL (R-2) to resort to the competitive Bidding Process envisaged under clause 5.1 of NTP. This conclusion is contrary to the provisions of the Indian Electricity Act, 2003 which provides that the Commission is to be guided by the provisions of the NTP.

- (ii) The State Commission while approving the PPA has committed error in fixing the tariff between the generating company namely MPL (R-3) and a distribution company namely NDPL (R-2) as the tariff fixed by the Delhi State Commission was in violation of the Competitive Bidding Process under Section 66 of the Electricity Act.
- (iii) Originally MPL (R-3), generating company first approached the Central Commission by way of a petition 112 of 2006 seeking for exemption from applicability of clause 5.1 of the NTP but the Central Commission by its order dated 17.01.2007 did not incline to give such an exemption. However, the Central Commission directed the MPL (R-3) to get a clarification from the Central Government. Admittedly, such a clarification was not sought by the MPL (R-3) from the Central Government. On the other hand, the NDPL (R-2) being the distribution company, had filed a petition before the State Commission to seek for

approval of the PPA entered into between the distribution Licensee (R-2) and Generating Company (R-3). Thus, the order passed by the Central Commission dated 17.01.2007 has been circumvented by the distribution company (R-2) to obtain the approval from the State Commission thereby the NDPL (R-2) managed to get the orders indirectly from the State Commission which he could not have obtained from the Central Commission directly.

- (iv) The State Commission does not have the jurisdiction to approve the PPA between the NDPL (R-2) and MPL (R-3) prior to the tariff determination for the PPA by the Central Commission.
- (v) The interpretation adopted by the State Commission that Section 62 and 63 of the Act provide that alternative route to a licensee for procurement of power, is wrong since such an interpretation will encourage all distribution licensees to enter into a negotiated PPA

only to the exclusion of the Competitive Bidding Process.

- 5. The Ld. Counsel appearing for the Respondents have made a common reply to these contentions made by the Ld. Counsel for the Appellants, as follows:
 - The order passed by the Central Commission on (i) 17.01.2007 in the application filed by the MPL (R-3) will not in any way affect the powers of the State Commission to pass the order in exercise of the power under Section 86(1)(b) of the Act. The only prayer made by the MPL (R-3) before the Central Commission was to seek for clarification from the Central Commission with reference to the applicability of the clause 5.1 of the NTP. The MPL (R-3) had merely sought for clarification as to whether it will fall under the exempted category by virtue of the nature of the control exercised by the Damodar Valley Corporation, a Central Company, in the ownership, operation and

management of MPL (R-3). In that context, the Central Commission, without giving any finding with regard to the said clarification, merely directed the MPL (R-3) to approach the Central Government to seek for such a clarification. As such, the order of the Central Commission did not give any finding with regard to the issues concerning the determination of tariff of MPL (R-3). Therefore, the order of the Central Commission cannot be treated as one relating to the tariff determination.

the State Commission, the MPL (R-3) and the NDPL (R-2) have achieved indirectly what they could not achieve directly is baseless. Clause 5.1 of the NTP cannot restrict the liberty of the generating company under Section 10(2) of the Electricity Act to sell power to any person or licensee. In other words, the distribution licensee may be permitted by the State Commission to procure power from a generating

company on a negotiated tariff irrespective of the fact that the generating company is not a State owned Control company. The fact that MPL (R-3) did not approach the Central Government for a clarification does not prevent it from entering into any contract with a distribution licensee through the negotiated route under the NTP.

- (iii) The demarcation of the clear separate independent jurisdiction exercised by the Central Commission and the State Commission discharging their statutory functions has been underlined in Rule 8 of the Electricity Rules, 2005. Thus, the regulation of power procurement of a distribution licensee by the State Commission under Section 86(1)(b) is separate from the determination of tariff of a generating station by the Central Commission under Section 79 of he Act.
- (iv) The State Commission has rightly proceeded to exercise its powers under Section 86(1)(b) to

approve the PPA entered into between the NDPL (R-2) and MPL (R-3) having regard to the reasonability of the indicative tariff. The State Commission has made it amply clear in this impugned order that the PPA will be effective only after the tariff has been fixed by the Central Commission.

(v) Section 62 and 63 are alternative methods available to the Appropriate Commission for determination of tariff. It is open to the Commission to adopt either of the procedures prescribed under Section 62 and 63 of the Act. Clause 5.1 of NTP cannot be read to debar the State Commission for exercising its statutory power for determination of tariff under Section 62 of the Act for all future procurement of power. The Tariff Policy cannot mandate the State Commission to exercise its power of approval of power procurement only in a particular manner by allowing through the procurement of power only Competitive Bidding Process. Such a mandate will be inconsistent with wider range of regulatory power conferred on the State Commission under Section 86(1)(b). In other words, the policy directions which are directory cannot exclude the operation of Section 62 which confers power to State Commission to determine the tariff of a company under Section 62(1)(a). In other words, the Central Government, through a policy direction, cannot take away the powers of the State Commission what has been specifically provided in the Act.

- (vi) The Appellants have no locus standi to challenge the impugned order since they cannot claim themselves as an aggrieved party as they have not shown any direct injury so as to offer it a remedy under Section 111 of the Electricity Act, 2003.
- 6. The Ld. Counsel for the Appellants has cited various authorities under the Supreme Court. They are as follows:

- (i) (2003) 2 SCC 111 in Bhavnagar University versus Paltina Sugar Mills (P) Ltd. & Anr.
- (ii) (2004) 5 SCC 409 in Ramesh Mehra versus Sanwal Chand Singhvi and Ors.
- (iii) (1980) Supp (2) SCC 43 in Commissioner of Wealth

 Tax versus Smt. Hasmatunnisa & Ors.
- (iv) (1965) 1 SCR 542 in Municipal Corporation of Greater Bombay versus Lala Pancham & Ors.
- 7. The Ld. Counsel for all the respondents has also cited authorities in order to substantiate their pleas. They are as follows:
 - (i) (2006) 4 SCC 327 in Kerala Samasthana Chethu

 Thozhilali Union versus State of Kerala and Ors.
 - (2) (1992) Supp (1) SCC 150 in State of Madhya Pradesh & Another versus M/s G.S. Dall & Flour Mills
 - (3) (1985) 1 SCC 641 in Agricultural Market Committee versus Shalimar Chemical Works Ltd.

- (4) (2002) 2 SCC 95 in British Airways Pic versus Union of India.
- (5) (2001) 8 SCC 540 in Anwar Hassan Khan versus

 Mohd Shaifi
- (6) (1997) 1 SCC 373 in Sultana Begum versus Prem Chand Jain
- (7) (1997) 5 SCC 516 in Agricultural Market Committee versus Shalimar Chemicals Works Ltd.
- (8) (2008) 7 SCC 748 in Deepak Agro Foods versus State of Rajasthan
- (9) (2001) 8 SCC 676 in Bharthidasan University versus

 All India Council for Technical Education
- 8. We have heard the Ld. Counsel for the parties and considered carefully and perused the entire records. In the light of the rival stands taken by the respective parties, the following questions would arise for consideration in the present appeals.
 - (i) Whether the compliance with the Competitive Bidding Process as envisaged in clause 5.1 in the NTP, 2006 is

SSR

- mandatory for the procurement of power by a distribution company?
- the fact that the Central Commission had rejected the petition of MPL (R-3) for exemption from NTP and that the NDPL (R-2) was seeking to bypass the provisions of the NTP by seeking the approval of the State Commission to the PPA entered into with MPL (R-3) even though he same was entered into in contravention of the provisions of NTP?
- (iii) Whether the State Commission has the jurisdiction to approve the PPA entered into between NDPL (R-2) and MPL (R-3) prior to tariff determination for the PPA by the Central Commission?
- (iv) Whether Section 63 of the Electricity Act is the exception to Section 62 and the guidelines framed by the Central Government will operate only when tariff is being determined by the competitive bidding process?

- (v) Whether the Appellants are the aggrieved person as provided under Section 111 of the Electricity Act?
- 9. Before dealing with the various questions relating to the alleged infirmities of the impugned order, it would be appropriate at the outset to deal with the question as to whether the Appellants have the locus standi to challenge the impugned order as the aggrieved party.
- 10. According to the Appellants, the expression "person aggrieved" appearing under Section 111 of the Act, which has not been defined in the Act, has to be given its natural and liberal meaning in the wider sense possible and since the impugned order had been passed in disregard of clause 5.1 of the NTP which would result in denial to access of power to the Appellant through Competitive Bidding Process which consequentially would adversely affect the interest of the consumer, the Appellants would certainly come under the category of aggrieved person and therefore, the Appeal is

maintainable. Though the word "person aggrieved" as provided under Section 111 of the Act has not been defined, this Tribunal as well as the Supreme Court has given interpretation and meaning of the words "person aggrieved" in the following decisions:

- (i) (2008) 13 SCC 414 in GRIDCO versus Gajendra Haldia and others.
- (ii) 2007)-Aptel 746 Energy Journal in Chhatisgarh State

 Electricity Board versus Chhatisgarh State Electricity

 Regulatory Commission and others.
- (iii) The recent decision is (2000)-LR-Aptel 0459 Jindal Stainless Ltd. versus State of Orissa.
- 11. In the Jindal Stainless Limited case this Tribunal has quoted the various Supreme Court decisions in (2003)9 606 Banarasi and others versus Rampal; (1997) 7 SCC 452 in Northern Plastic Ltd. versus Hindustan Photo Films and referred to various propositions laid down by the Supreme Court

with reference to the term "Aggrieved person" These proportions are as follows:

- (i) A person who was not a party to the original proceedings may still file an appeal with leave of the Appellate court, provided that the person claiming himself to be the aggrieved party shall make it a prima facie case as to how he is aggrieved.
- (ii) A person can be said to be aggrieved by an order only when it caused on him some prejudice in some form or another unless the person is prejudicially or adversely affected by the order, he cannot be entitled to file an Appeal as an aggrieved person.
- (iii) The words "person aggrieved" did not mean a man who is merely disappointed of a benefit which he may have received if some other order had been passed. A person aggrieved means a person who has suffered a legal grievance, a person against whom a decision has been pronounced which have wrongly deprived him of

- something or wrongfully refused him something or wrongly affected his title to something.
- (iv) When a person had not been deprived of a legal right, when he is not subject to legal wrong, when he has not suffered any legal grievance, when he has no legal peg for a justifiable claim to hang on, he cannot claim that he is a person aggrieved.
- 12. In the light of the above principles laid down by the Hon'ble Supreme Court, this question has to be analysed. There is no dispute in the fact that the Appellants were a party in the proceedings before the State Commission as they had opposed the prayer made by the NDPL (R-2). But that alone will not entitle the person to file an appeal before this Tribunal. The ratio decided by the Supreme Court as mentioned above is that a person aggrieved does not mean a man who is merely disappointed of a benefit which he might have received. On the other hand, it is to be established that the order impugned has caused a legal grievance to him, order impugned is prejudicially

SSR Page 20 of 39

or adversely affecting him, or the order impugned has wrongfully deprived him or wrongly refused him something. Only when all these ingredients are satisfied, the party can claim himself as aggrieved party and is entitled to file an appeal.

In the present case, the Appellant simply say that if a 13. Competitive Bidding Process is allowed, he may have access to get the power by becoming the successful bidder in the Competitive Bidding Process and that opportunity is lost. However, it is noticed that the stand taken by the Appellants in these appeals that even if the impugned order is confirmed then such power procured under that PPA should be allocated to all the distribution companies in Delhi including the Appellants. Thus, it is evident from the pleadings of the Appellants and the prayer in the Appeal that real intention of the Appellants is to secure indirectly portion of the power procured by the NDPL (R-2) from MPL (R-3) under the PPA and as such he has not established any direct legal injury due to the impugned order. As such the Appellant have failed to establish that they suffered

SSR Page 21 of 39

a legal grievance or legal injury or they have been unjustifiably deprived and denied of something which he would have been entitled to obtain in usual course. Therefore, our conclusion is that the Appellants are not a person aggrieved.

- 14. However, we are of the view that in spite of our above conclusions about the maintainability of the Appeal, we deem it appropriate to go into the legal issues which are raised by the learned counsel for Appellant, who argued at length, questioning the legality or the correctness of the impugned order.
- Appellants, the tariff fixed by the State Commission was not determined by a Competitive Bidding Process as contemplated by Section 63 of the Act, 2003 read with clause 5.1 of NTP and therefore the impugned order is bad in law. On going through the relevant provisions of the Act, it is evident that the legislature carved out 2 distinct fields for (i) tariff determination and (ii) PPA approval. The domain of tariff determination is

governed under Part-VII of the Act. It contains Sections 61 to 65 of the Act. There are two routes and options provided: (a) tariff determination under Section 62(1)(a) by the Appropriate Commission in terms of Section 79 and Section 86 of the Act and (b) tariff discovery in terms of the Competitive Bidding Process in accordance with the guidelines issued by the Government of India, which shall be binding on the Appropriate Commission in terms of Section 63 of the Act.

16. In terms of Section 86(1)(b), the regulation of electricity purchase and procurement process to distribution licensee including the price at which electricity shall be procured from generating companies through agreements for purchase of power for distribution and supply between the State is within the sole domain of the concerned State Commissions. Admittedly, there is no provision in the Act which overrides or restricts the said powers of the State Commission. But it is contended by the Ld. Counsel for the Appellants that clause 5.1 of NTP as well as Section 63 of the Act put such restrictions on the power of the

State Commission to give approval for the PPA without resorting to the Competitive Bidding Process.

17. Section 62(1)(a) of the Act provides that the Appropriate Commission shall determine the tariff in accordance with the provisions of the Act for the supply of electricity by a generating company to a distribution licensee, whereas Section 63 of the Act provides that the tariff arrived through a transparent Competitive Bidding Process shall be adopted by the Appropriate Commission. Section 62(1)(a) and Section 63 of the Act are quoted as under:

"Determination of tariff – (1) The Appropriate Commission shall determine the tariff in accordance with the provisions of this Act for –

(a) supply of electricity by a generating company to a distribution licensee

Provided that the Appropriate Commission may, in case of shortage of supply of electricity, fix the minimum and maximum ceiling of tariff for sale or purchase of

SSR Page 24 of 39

electricity in pursuance of an agreement, entered into between a generating company and a licensee or between licensees, for a period not exceeding one year to ensure reasonable prices of electricity."

- "63. Determination of tariff by bidding process Notwithstanding anything contained in Section 62, the Appropriate Commission shall adopt the tariff if such tariff has been determined through transparent process of bidding in accordance with the guidelines issued by the Central Government."
- 18. Thus these Sections provide for 2 alternatives to the concerned parties to procure power with the approval of tariff by the Appropriate Commission. These 2 alternatives are as follows:
 - (i) Under Section 62(1)(a), the Appropriate Commission shall determine the tariff for the supply of electricity by a generating company to a distribution licensee.

- Under Section 63, when the tariff has been determined (ii) by the Competitive Bidding Process, the Appropriate Commission shall adopt such tariff. The wording contained in Sections 62 and 63 of the Act would make it clear that Section 63 is not couched as a nonobstante clause being an exception carved out from Section 62. Section 62 is a substantive provision. Section 63 is an exception. So the exception contained in Section 63 cannot override the scope of the substantive namely Section 62. In other words, Section 62 provides substantive power Appropriate Commission for determination of tariff with the sole exception of price discovery through the Competitive Bidding Process under Section 63.
- 19. Clause 5.1 of NTP provides that the power procurement for future should be through a transparent Competitive Bidding Process using the guidelines issued by the Central Government on 19.01.2005. Further, giving a clarification, Ministry of Power

issued a circular dated 28.08.2006 clarifying the above position.

The relevant extracts of the said clarification issued by the Ministry of Power is reproduced below:

- "....3. Therefore, the concerned State Commission has a jurisdiction to regulate electricity purchase and procurement process of a distribution licensee under Section 86(1)(b) of the Act except the tariff and the tariff related matters of the PPA.
- 4. It is further, clarified that the PPA in cases where tariff has been determined through Competitive Bidding Process under Section 63 of the Act and in accordance with the relevant guidelines issued by the Central Government, it is finalised within the bidding process and the Appropriate Commission is requited to adopt the tariff in accordance with the provisions of the law".
- 20. The above relevant quoted portions of the clarification would make it clear that Section 63 is optional route for procurement of power by a distribution licensee and in case the

SSR Page 27 of 39

same is followed, the Appropriate Commission is required to adopt the said tariff. Therefore, the power under Section 86(1)(b) and Section conferred on 62(1)(a) the Commission cannot in any manner be restricted or whittled down by way of a policy document or a subordinate legislation or notification issued by the Government/Executive. Any rules, or executive instructions or notification which are contrary to any provisions of the tariff statute shall be read down as ultra vires of the parent statute. This is a settled law as laid down by the Supreme Court in (2006) 4 SCC 327 in Kerala Samsthana Chethu Thozhilali Union versus State of Kerala and Ors. (quoted below)

"17. A rule is not only required to be made in conformity with the provisions of the Act whereunder it is made, but the same must be in conformity with the provisions of any other Act, as a subordinate legislation cannot be violative of any plenary legislation made by Parliament or the State Legislature:

SSR Page 28 of 39

- 21. Another decision cited by the Ld. Counsel for the Appellants is (1992) Supp (1) SCC 150 in State of Madhya Pradesh versus M/s G.S. Dall and Flour Mills (quoted below)
 - "19. The second ground on which the Full Bench has sought to invoke the instructions is also not correct. Executive instructions can supplement a statute or cover areas to which the statute does not extend. But they cannot run contrary to statutory provisions or whittle down their effect".
- 22. In the light of the above rationale laid down by the Supreme Court, clause 5.1 of the NTP which is a subordinate legislation would not restrict or whittle down the scope of the statutory powers conferred to a State Commission under Section 62(1)(a) especially when it is noticed that clause 5.1 of NTP would apply to Section 63 only and not to Section 62 which is a substantive provision. As stated above, Section 63 is an exception to Section 62 and the same cannot be taken away by way of a policy document like guidelines clause 5.1 of NTP.

SSR Page 29 of 39

- 23. Secondly it has been held that clause 5.1 of the NTP which is a policy direction cannot be held to control or override Section 62 of the Act and when these two provisions cannot be reconciled, Section 62 alone must prevail.
- 24. This aspect has to be viewed from one other angle. The scope and applicability of clause 5.1 of NTP in the present case involves the scrutiny of 3 issues: namely:
 - (i) The power of the State Commission to approve the PPAs entered into between the distribution licensee and the generating company under Section 86(1)(b) of the Act;
 - (ii) The jurisdiction of the Central Commission to determine tariff for generating companies set up under composite scheme for supply of power to more than one state and
 - (iii) The mandate under clause 5.1 of the NTP in relation to procurement of power by distribution licensees through the Competitive Bidding route.

SSR Page 30 of 39

- 25. In regard to the first aspect, it has to be stated that the procurement of power by distribution licensees and the price at which the same is done is approved by the State Commission under Section 86(1)(b) of the Act. The power to regulate the procurement process of a distribution licensee is a wide ranging power vested exclusively with the State Commission. This cannot be curtailed in any manner by the tariff policy. In fact, even for inter-State transactions, the State Commission has been conferred with the power under Section 64(5) of the Act to determine the tariff for the supply of power by a generating company situated outside the State from whom a distribution licensee is procuring the power.
- 26. In regard to the second aspect, it is to be pointed out that Section 79((1)(a) and (b) of the Act confers the power on the Central Commission to regulate the tariff of a central generating station and of generating stations with a composite scheme to supply power to more than one State. The clear demarcation of the separate and independent jurisdiction exercised by the

Central Commission and the State Commissions in discharging their statutory functions has been underlined in Rule 8 of the Indian Electricity Rules, 2005.

27. A situation whereby the State Commission can examine and approve the PPA leaving it open to the Central Commission to fix the tariff component is itself contemplated in the said rules – Rule 8 . Rule 8 reads as follows:

"Tariff of generating companies under Section 79: The tariff determination by the Central Commission for generating companies under clause (a) or (b) of sub-Section 1 of Section 79 of the Act shall not be subject to redetermination by the State Commission in exercise of the functions under clause (a) or (b) of sub-Section (1) of Section 86 of the Act, and subject to the above, the State Commission may determine whether a distribution licensee in a State should enter into a PPA or procurement process with such a generating company based on the tariff determined by the Central Commission".

SSR Page 32 of 39

- 28. In this case the State Commission has exactly done this following Rule 8. The relevant portion of the impugned order is reproduced as below:
 - "50. Subject to the incorporation of the said rule in the PPA for procurement of 300 MW of power from MPL (R-3) is approved for a period of 29 years, commencing from 2012. The tariff for supply of this power shall be fixed by the Appropriate Commission".
- 29. From this paragraph it is clear that the State Commission has not fixed the tariff at all. On the other hand, it has observed that exercise has to be done by the Central Commission which alone can determine tariff under Section 79(1)(b) in respect of the inter-State transmission of electricity by the generating company. In this case, the State Commission has adopted a normative tariff only for the limited purpose of examining and scrutinising the PPA.

- As a matter of fact, in the present case the State 30. Commission gave conditional approval to the PPA as far as other terms and conditions were concerned. In other words, the State Commission did not embark upon the exercise of determination of tariff as the same is wholly in the domain of the Central Commission. It is also noticed from the impugned order that the State Commission has made it amply clear in its order that the PPA will be effective only after the tariff has been fixed by the Central Commission. As referred to above, the State Commission has rightly pointed out that Section 62(1)(a) and Section 63 are alternative methods available to the Appropriate Commission for determination of tariff and therefore, it is open to the Appropriate Commission to adopt either of the procedures prescribed under Section 62(1) and under Section 63 of the Act in relation to the determination of tariff.
- 31. In regard to the third aspect it is to be stated that clause 5.1 of the NTP which relates to the power under Section 63 of the Act cannot be read to debar the State Commission from

exercising its statutory power for determination of tariff under Section 62(1) of the Act for all future procurement of power.

In the light of the above discussions, the argument 32. advanced by the Ld. Counsel for the Appellants that resort to tariff determination under Section 62(1)(a) without adopting the Competitive Bidding Process will render clause 5.1 of the NTP redundant as the distribution licensees in the future will procure power from the generating companies only through the negotiated route, cannot be accepted as it is always open to the State Commission to direct the distribution licensee to carry out power procurement through Competitive Bidding Process only in case where the rates under the negotiated agreement are high. In other words, the State Commissions have been given discretionary powers either to chose Section 62, 62(1)(a) to give approval for the PPA or to direct the distribution licensee to resort to the Competitive Bidding Process as per clause 5.1 of the NTP read with Section 63 of the Act. As such, the main

contention urged by the Ld. Counsel for the Appellant would fail.

Nextly, it was contended by the Ld. Counsel appearing for 33. the Appellant that by approaching the State Commission for the approval of the PPA, MPL (R-3) and NDPL (R-2) have achieved and obtained orders indirectly from the State Commission what they could not achieve directly before the Central Commission in respect of claim for exemption from the applicability of clause 5.1 of NTP. This contention also, in our view, lacks substance. The MPL (R-3) has merely approached the Central Commission to seek a clarification for the question as to whether it will fall within the exempted category from clause 5.1 of NTP as it is state owned by virtue of the nature of control exercised by the Damodar Valley Corporation, a Central Government company. In the said petition the Central Commission did not give any findings with regard to the issues concerning the determination of tariff of MPL (R-3). It is clear from the order dated 17.01.2007 passed by the Central

Commission that the Central Commission carefully refrained from finding any issue relating to clause 5.1 of NTP and instead the Central Commission directed the MPL (R-3) to approach the Central Government to seek such clarification as it felt that it does not have the jurisdiction in adjudication of such matters. This order cannot be treated as one relating to tariff determination. As a matter of fact, the Central Government has clearly observed in its order dated 28.08.2006 that it is for the Central Government to interpret its policy to determine whether a particular utility falls outside the scope of clause 5.1 of the NTP. Such an observation cannot be construed to be a finding nor a direction of the Central Commission. As such the observation does not have a binding effect. Nowhere in the order the Central Commission observed that clause 5.1 of the NTP will be binding on the State Commission while exercising their powers under Section 86(1)(b) to approve all future procurement of power by the distribution licensee. The fact that MPL (R-3) did not chose to approach the Central Government as directed by the Central Commission for a clarification cannot

prevent the MPL (R-3) from entering into any contract with a distribution licensee through negotiated route nor would it prevent the NDPL (R-2) to procure power from the MPL (R-3), the generating company through a contract to be approved by the State Commission. It cannot be said that MPL (R-3) has done anything which it otherwise is restricted in law to do. So far as NDPL (R-2) is concerned, it is purely a decision of the State Commission to decide whether to approve a negotiated tariff for the NDPL (R-2) under Section 62 or to direct the licensee to adopt the Competitive Bidding Process under Section 63 read with clause 5.1 of the NTP. Therefore, the principle that a person cannot be allowed to do something indirectly that he cannot do directly is not applicable to the present facts of the case.

34. In view of the above discussions, our conclusion is that the approval of the State Commission to the PPA entered into between NDPL (R-2) and MPL (R-3) by the order dated 30.4.2009 passed by the State Commission subject to the

Judgment in A. No. 106 & 107 of 2009

various conditions, is perfectly valid in law and it does not warrant any interference. Consequentially these appeals are liable to be dismissed. Accordingly they are dismissed. No

(H.L. BAJAJ)

TECHNICAL MEMBER

(JUSTICE M. KARPAGA VINAYAGAM)
CHAIRPERSON

Dated: 31st March, 2010.

costs.

REPORTABLE/NOT-REPORTABLE

Exercise for Determination of Levelised Tariff under Cost Plus Methodology

A preliminary exercise was carried out by the economics wing of the Commission to examine how the price of electricity as determined under section 62(1)(a) by the appropriate Commissions in terms of section 79 and 86 of the EA, 2003, which basically uses the cost plus methodology and the norms specified by appropriate Commissions in their respective Tariff Regulations, compares with the price of electricity as discovered under competitive bidding guidelines notified under section 63 of the EA, 2003.

The preliminary exercise involved calculating the levelised tariff for one of NTPC's latest stations (Sipat I and II), comprising of 3 units 660 MW (Sipat I- supercritical) and 2 units of 500 MW (Sipat -II non-supercritical), respectively. The cost plus methodology with the basic data and assumptions as stated in Annexure A was used to arrive at the levelised tariff. Base Year for Sipat I for the purpose of calculating the levelised tariff was assumed as 2011 and for Sipat II, the date for the purpose of calculating the levelised tariff has been assumed as 2009. While the escalation rates for fuel (Coal and Oil) and fuel transportation (coal) were taken from the latest escalation rates notified by CERC for Competitive bid evaluation, the escalation rates for the O&M costs were arrived at by using the O&M norms as specified in CERC's 2004-09 and 2009-14 Tariff Regulations as the basis and then using the 2 year and 3 year simple and double moving average methods.

The levelised costs as calculated with assumptions as stated in Annexure come out to be:

Sipat I units: Rs. 2.4102/kWh

Sipat II units: Rs. 2.46351/kWh

Tables below depicts the levelised price of electricity as discovered under competitive bidding guidelines notified under section 63 of EA, 2003. It is seen that, the levelised cost of electricity as discovered under competitive bidding process, especially for domestic coal based UMPPs and under case 2 bidding, is generally lower than the levelised costs arrived at for Sipat I and II units. The preliminary exercise thus indicates that the price of electricity as discovered under competitive bidding process could be lower than the price determined under cost plus methodology. However, in order to be able to make a definitive generalised ascertainment that the price of electricity generation as discovered under competitive bidding process is generally lower than the cost of electricity as determined under cost plus methodology using the norms prescribed in the Tariff Regulations, it would be necessary to make more detailed and wider analysis. This, however, is one of the main limitations of the preliminary exercise carried out by the economics wing.

Levelised Tariff for Procurement of Electricity through Competitive Bidding Under Case 2 (UMPPs)

Sr No	Name of the Project	Capacity (MW)	Fuel	Levelised Tariff (Rs/KWh)
1	Mundra UMPP	3800	Imported Coal	2.26
2	Sasan UMPP	4000	Domestic Coal	1.20
3	Krishnapatnam UMPP	4000	Imported Coal	2.33
4	Tilaiya UMPP	4000	Domestic Coal	1.77

Levelised Tariff under Case-2

Seller/Project Name	Procurer	Capacity (MW)	Fuel Type	Levelised Tariff (Rs/kWh)	Remarks
Indiabulls CSEB Bhaiyathan Power Ltd.	Chhattisgarh State Electricity Board	858.00	Coal	0.810	Pit head Plant
Mahatma Gandhi Super Thermal Power Plant, Jhajjar	Haryana Power Purchase Centre	1320.00	Coal	2.996	Load Centre Plant
Talwandi Sabo Power Limited	Erstwhile, PSEB	1800 <u>±</u> 10%	Coal	2.864	Load Centre Plant

Levelised Tariff under Case-1

Seller/Project Name	Procurer	Capacity (MW)	Fuel Type	Levelised Tariff (Rs/kWh)	Remarks
Aryan Coal Beneficiaries Pvt. Ltd.	Gujarat Urja Vikas Nigam Ltd.	200.00	Coal	2.250	Load Centre Plant
Adani Power Pvt. Ltd.	Gujarat Urja Vikas Nigam Ltd.	1000.00	Coal	2.350	Load Centre Plant
Essar Power Ltd.	Gujarat Urja Vikas Nigam Ltd.	1000.00	Imported Coal	2.401	Load Centre Plant
Adani Enterprises Ltd.	Gujarat Urja Vikas Nigam Ltd.	1000.00	Coal / Lignite	2.890	Load Centre Plant
Mundra TPS, Phase-IV, Gujarat (for Adani Power Ltd.)	Haryana Power Purchase Centre	1424.00	Coal	2.940	Delivered price in Haryana, including losses
Kamalang Thermal Power Project, Orissa (for PTC India Ltd GMR Project)	Haryana Power Purchase Centre	300.00	Coal	2.860	Delivered Price in Haryana, including losses

The cost of generation is affected by several variables and factors such as: size, technology, plant load factor, location - whether the plant is a pit head plant or needs coal transportation, coal cost - whether the plant uses imported or domestic coal, the discount rate used for arriving at levelised costs, year of procurement of plant and equipment, salvage value of the plant at the end of the useful life, whether or not carbon credits have been claimed, etc. Unless all such variables and factors are similar in case of both the options (competitive bidding as well as cost plus methodology), an apple to apple comparison is not possible. Consequently, unless all the variables and the factors that affect cost of generation are similar (or made similar through sensitivity analysis) for both options used for determination / discovery of cost of generation, it will not be possible to definitively ascertain whether or not one method or the other results in better (lower) discovery/determination of cost of generation of electricity. In case of Sipat, the units are of different scale and size as compared to UMPPs. Also the year of procurement of plant and machinery are different. While the Sipat II units are of non-supercritical technology, the UMPPs are of supercritical technology. The discounting rate used for arriving at the levelised cost for Sipat is the latest notified rate of 9.35%, whereas for UMPPs, the rates are earlier rates which have ranged between 11.1 and 10.19%. For Sipat units, no allowance has been taken for salvage value and carbon credits. Also, Sipat involves, transportation of coal over a distance of up to 125 KMs, whereas, some of the UMPPs, such as at Sasan and Tilaiya involve practically no transportation of coal and have dedicated coal mines. Thus comparing the levelised cost of Sipat, calculated by using cost plus methodology with the levelised cost of UMPPs will not exactly be an apple to apple comparison unless analysis normalises these variations.

To neutralise the effect of differences in some of the variables and factors that affect cost of generation, the cost of Sipat was calculated using varying values of plant load factor, discounting rate, coal transportation cost, and also allowing for salvage value and carbon credits. The cost of generation as calculated after allowing for these is depicted in table below. From the Table, it is seen that the cost of generation in case of Sipat II can come down to level of Rs. 2.01007/kWh in the extreme situation, where heat rate equal to supercritical units is assumed, where allowance for carbon credit and salvage value (100% of the plat cost) is taken, where PLF of 95% is assumed, and where no coal transportation cost is assumed. For Sipat I, the cost of generation with all the assumptions as stated above comes to a level of Rs. 1.97543/kWh.

These costs are still higher than costs discovered for Sasan and Tilaiya. Although they appear to be lower than some of the costs discovered under case 1 and case 2 bidding, in true sense they may not be so because, as can be seen from the remarks column in the Tables presented in the previous page, the levelised costs associated with many of the case 1 and 2 bids refer to load centre plants or cost of delivered electricity to the procurer, where coal transportation costs or transmission costs form significant part of total cost. There is a case for further detailed study in this regard, as the cost discovered under competitive bidding is likely to be lower than the cost determined under cost plus methodology.

Sipat II- 2x500MW non-super critical units	Cost Rs/kWh
Plant Load Factor (PLF) of 85 %	2.46351
PLF of 90%	2.40385
PLF of 95%	2.35048
PLF of 85 % and No coal transportation Cost	2.29964
PLF of 90 % and No coal transportation Cost	2.23998
PLF of 95 % and No coal transportation Cost	2.1866
PLF of 85 % and No coal transportation Cost and supercritical heat rates	2.23707
PLF of 85 % and No coal transportation Cost and supercritical heat rates	2.17741
PLF of 85 % and No coal transportation Cost and supercritical heat rates	2.12403
PLP of 85 % and No coal transportation Cost and supercritical heat rates	2.21369
Discounting rate of 10.19% (Notified during Apr 2009 to March 2010)	2.2150)
PLF of 85 % and No coal transportation Cost and supercritical heat rates	2,20568
Discounting rate of 10.49% (Notified during Apr. 2008- March 2009)	2.20300
PLF of 85 % and No coal transportation Cost and supercritical heat rates	2.20279
Discounting rate of 10.6% (Notified during Oct 2006 to March 2007)	2.20219
PLF of 85 % and No coal transportation Cost and supercritical heat rates	2,18995
Discounting rate of 11.1% (Notified during April 2007 to March 2008)	2.10993
PLF of 95 % and No coal transportation Cost and supercritical heat rates	2.01007
100% salvage value, Carbon credits, Discounting rate of 10.6% (Notified	2.01007
during Oct.2006-March 2007)	

Sipat I- 3x660MW super critical units	Cost
Di di III	Rs/kWh
Plant Load Factor (PLF) of 85 %	2.4102
PLF of 90%	2.34825
PLF of 95%	2.29283
PLF of 85 % and No coal transportation Cost	2.30951
PLF of 90 % and No coal transportation Cost	2.24757
PLF of 95 % and No coal transportation Cost	2.19214
PLF of 85 % and No coal transportation Cost and supercritical heat	2.28926
rates, Discounting rate of 10.19% (Notified during Apr.2009 to	2.20720
March 2010)	
PLF of 85 % and No coal transportation Cost and supercritical heat	2.28233
rates, Discounting rate of 10.49% (Notified during Apr. 2008-	2.20233
March 2009)	
PLF of 85 % and No coal transportation Cost and supercritical heat	2.27983
rates, Discounting rate of 10.6% (Notified during Oct 2006 to March	2.21763
2007)	
PLF of 85 % and No coal transportation Cost and supercritical heat	2.26871
rates, Discounting rate of 11.1% (Notified during April 2007 to	2.208/1
March 2008)	
PLF of 95 % and No coal transportation Cost and supercritical heat	1.07542
rates, 100% salvage value, Carbon credits, Discounting rate of	1.97543
10.6% (Notified during Oct. 2006-March 2007)	

Remarks: Sipat II Non-upercritical units rates As per latest notification of escalation As per latest notification of escalation As per 2009-14 Tariff Regulations As per actual average for Sipat II As per actual average for Sipat II As approved by CERC As approved by CERC rates Rs. 29 35537 per titre
6.01 % per year
As per 2005-14 Tanff Regulations
As per 2005-14 Tanff Regulations
9% 90%; First 12 years @5.28%; Next 13 Years @2.0492% As per 2009-14 Tariff Regulations 6.59105% per year Sipat II, Non-Super Critical 2X500 = 1000 MW 3800.35/2 2548.4982 1140.1072 Linked to depreciation Rs. 0.87141 per Kg 0.717589 Kg/kWn Constant Rs. 125.1 per ton 6.01 % per Year 2.37 % per Year 0.232488376 As per 2009-14 Tariff Regulations 7.50% Constant 85% Constant 2450 Constant 3414.21 Constant As per 2009-14 Tanff Regulations 1ml/kWh 7.06% rates As per latest notification of escalation rates 2011
As per latest notification of escalation rates As per latest notification of escalation Sipat II cost of Rs. 29.33537/litre escalated at 6.01% per year for 3 years to coincide with base year of 2011 Sipat II cost of Rs. 0.87141/kg escalated at 6.01% per year for 3 years to coincide with base year of As applicable to Sipat II, assumed constant Remarks, Sipat I, super Critical Units From Feasibility Repor As per 2009-14 Tariff Regulations 4.95475% per year Rs. 34.64487 per litre
B.01% per year
As per 2009-14 Tarriff Regulations
As per 2009-14 Tarriff Regulations
B% : Sipat i, Super Critical Units 3x650 = 1980 MW 8320 5824 3 Years Linked to depreciation Linked to depreciation Rs. 125.1 per ton 0.6044 kg/kWh Constant 6.01 % per year 0.232488376 2.37% per year Rs. 2.2 per Kg 7.06 percent 9% Constant Inputs Required/Assumed For Calculation of Levelized Tariff 85% Constant 2176 Constant 3600 Constant 2496 ROE: Pre tax Full Tax: 33.33%, 15.5 % Secondary Fuel Oil Consumptio Base Year (MikWh generated) Escalation if any Base Year subsequent Years Working Capital Norm Working Capital Requirement Working Capital Interest Rate O&M Base Year Norm 11.7L/MW Escalation Generation Norms Base Year (CU/PLF in %) Subsequent Years Base Year: Kcal/kWh Subsequent Years (decline) Coal Base Year CV. Kcal/Kg Subsequent Years auxiliary Consumption Base Year (%) Escalation Moratorium Repayment Amount Repayment Period Coal Transportation cost Coal Consumption
Base Year KokWh
subsequent Years Input Parameter Subsequent Years erms of debi Interest Rate Depreciation Base Year Escalation Base Year S.No.

į.

i

Sipat II 2x 500 MW: Levelized Tariff Capital Cost Capacity

3800.357

Column C	Year	ľ	[
1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	Balance of Debt beginning of the year	2548 49	2247 832	24.47.47	70/0	5	L		_	\rightarrow	9	Ξ	١.,	=	=	15	19	4	4	ę
Column C	Repayment at the end of year, linked to		100	2	0.00	60.00			_	-	83	9052	-	5882	Ш		↓		248 777	326.65
1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	Оер	200.6585	_		200.6585	8				85.85				0						
1,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0	Net debt for interest calculation	2347.832	2.47		1745.856			1	┺.	128		1	<u>Ŀ</u> .	162/2		87297	87297	87.297	-↓	7.87297
1,000, 1	Interest cont	*		_				Н	┖	£	_			4	4.	4	4		_	523
The control of the	Fourth	165.7452		_		•	94.91774	L	_	52.42128		↓_	╄	427384	,	ę c	ę	P.	۶,	2
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	POE	1140.1		÷	11401	- 1	1140.1	1140.1	Н	1140.1		┺	+	1140 1	7.68	140	7 440	0 7,77	0	•
The control of the	POR Amount	42.8				23%			_	23%	23%	┺-	23%	23%	238	226	226	326	3 8	2 6
The color of the	Gaparation (1000 kVAs)	265.0536				285,0596		Ц		ш		↓_		4	1			4-		727
Column C	Heat rate (kCl/kWh)	7440000	4	3	/446000	- 4	7448000	_1	7448000		7446000	\vdash						+	┸.	448000
Charge C	CV of Cost (KosliKo)	DC#2	1.		2450		2450	2450	2450	2450	2450	Ц	L	ட	L	L	L	┸	1	3 2
Strain	Coal con (ko/k/kh)	0 34 38 00	3414	1	3414	34.4		_			ш				3414	24.4	77.77	3414	37.7	3
Column C	Coal Con in Tone	20,000	20/1/2		0.717833	0.717833		_	~~		ш	-	1		_	_	┸	_		
Column C	Base Very Coal Coarter	5343497	5343497	- 1	5343497	5343497		<u>.</u>	_		┺	+			_	_	_	ж.		2
Column C	Decalation	8/1.41	871.41	871.41	871.41	871.41	871.41	871.41	-	871.41	871,41	L	╄	L	1	Ł	4	4	1	3
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,		-	- 1	1.0801	1.0801	1.0901	1.0601	1.0601	1.0801	1.0801	10801	10801	Š	1	100	1000	10,000	1	8/ 1.4	4
Column C	Considered cost of coal	871.41		979.301	1038.157	1100.55		Ľ	┞.	┺	_	ㅗ	4-	4-	4	_	- 1	4	راء	8
1,10, 1,10	Cost transmost cost cost to the cost	465.6377	493.6225	523.2892	554.7389	588.0787		Н	٠.,	⊢	3533	┺	+-	4	4	_		4	-4-	7
1. 1. 1. 1. 1. 1. 1. 1.	Soen detablit cost per ton for 100 Km.							_		₽	l	+	╀	_	┸	_		_	-1	7
18,1489 18,000 10,000	Debet Section 1	125.1	۱	_1	125.1	125 1	125.1	125.1	125.1	125.1	125.1	125.1	125.1	125.5	125	126.1	1361	, , ,	, ,,,	-,
8.00.258 800.2	Sociation Transport	-	ľ	1.0237	1.0237	1.0237	1.0237	_	1.0237	1.0237	1.0237	1 0237	1 0237	Ļ	1 0237	2327	1 6507	1 520.1	1.63	
Table Tabl	Socialist (1815) Cost	122			134.2071	137.3878	140.6439	=		_		╄		1		1	-	-	•	3
2002.05 2002	Coal Italisport cost in RS, Crore	93.14946	- 1		89.93059			<u> </u>		ᆫ	_	_				-			- 1	90/0
1,000, 10,000 1,00	Population	2%	5%		5%	2%	8	2%	2%	١	1	┺.			_	-	_		- 1	2.0002
13 13 14 15 15 15 15 15 15 15	har contributions	3800.35	3800.35		3800.35		_	1	1	ı	١.		1	Ţ.	1	1	1		1	8
1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	S&M Norm	200.6585	200.6585		200.6585			'''	•	<u> </u>	Ľ	-	ľ	ľ	Ľ	Ţ.	Ľ	-	ľ	200
Col.	&m Esca	2	13.74	14.53	15.36	18.24			L			┺		1	4.	┺	4	٠.		167/0
The column The	Sc. O&M Norm Rs crore/MW	0.40		0 4459				_	Ц	- d	- -+	ΙI		1,00591	Ł	L	1	+	\perp	08501
130 131 142 1423 1424 1424 172 131 142 172 142 1	W Capacity	200	1	1000	0.03		_L	_	_			4		Ш	ᆫ		ᅩ	-	_	68893
Name	&M cost in Rs. Crore	130	l	ľ	3 5 4	┸	_1_			-					Ц.	Ц.	1	_		901
Table Tabl	acondary Fuel Norm (ml/kWh)	-	-		3	┸	_	1.	_1	-	_	_	_		Ŀ			Ł. I	ŀ	6.8931
Part	econdary Fuel Con. In kilo Litres	7446.			7446	744B	7446	7446	7748	7448	- 0,7,6	-	-	-	-	ŀ	-			٦
1,000 1,00	acondary fuel cost in Base Year Rs/KL	29335.37		293	29335.37			+-		ᆚ		18	0 1	4		_[_	\vdash	7446
1982 20 20 20 20 20 20 20	sca For secondary fuel cost		1.0801	IJ	1.0801	1		4	ᅩ	┸	4.	7 6	,	Š.	-	-		_	\rightarrow	335.37
27.184312 27.18588 24.45758 28.44278 28.4428 28.44278 28.44278 28.4428 28.44278 28.44278 28.4428 28.44278 28.44278 28.4428 28.44278 28.4428 28.44278 28.4428 28.44278 28.4428	so Cost of secondary fuel Rs/KL	29335.37	31098.43	32967 44	34948.78	⊢	┺	1	4-	_	┸	_	4		_L	-		_	-1	1.060
34/47 18 18 18 18 18 18 18 1	acondary fuel cost in Rs. Crore	21.84312	23,15589		26.02286	Н	-	_	ļ.,	4	1.	4-	٠		-4-	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	- 1	-+-	ľ	3875.4
355.51 355.52 3	Set of econdary from 2	28.20471	81 702B2	65.41116	69.34237	_	8/	_		!	ــ		_		_	2007	4		4	45362
114,7255 114,7255	ant Spaces @ 20% of O#M	3.640519	3.859315	4 091259	4.337144	-4	35			1_	+		_	٦,	4			т.	_	24.183 183 183
18, 270 18, 271 18, 271 18, 271 18, 272 14, 792 14,	Schubbes 2 months	22 200		23 28	30.72	_	ш	_	9.33486 4					,		49230 85	54536 60	-	4	40894
18.50.34 18.0014 19.7014 19.	tal working Capital regulated	202 607	114./925	114.7925	114.7925	7925	_1	⊢ ∔				L.				7925	4 7975	┸	4	3/862
18.2374 18.70512 19.20144 19.72728 20.8978 29% 9% 9% 9% 9% 9% 9% 9	erest rate on working Capital	700 00 × 00 × 00 × 00 × 00 × 00 × 00 ×	200	213.3348	281.87	ΘĮ.	_1		_	_	\Box	_		,	_			<u>.</u>	+	0987
1860.331 1385.28 1195.4 1009.2 1009.2 1195.231 1385.28 1195.4 1195.2 1195	erest Cost on Working Capital	18.2374	18.70512		19 72728	1.	4	4	- 1	_	%6 6	%6		ш	-			┺.	+-	86
1360.331 1385.538 1413.088		0	0		c		4	4	- 1	_	1,6525	gt.					-		L	38986
8% 88% 88% 88% 88% 88% 88% 88% 88% 88%	atl Cost		1385,538	1413.088	1442.986				┺	-4-	4	Д.	_				_			0
688.756 688.	uxiliary Consumption	8%	8%		8%	8			_	_	4				_				ш	9.016
1975558 2016568 2.085668 2.142199 2.185209	le Per Year crore units	$\overline{}$	688.755	688,755	688,755	688.755	┸	1	1		┸	L.	Ţ	Į		- 1	_	_		8%
1,0835 1	COST RS/KWA		2.011658	2.051656		ш	Ľ	l, ,	1.,	J٩	ľ	L	ı'n	Ľ	1,	1.	ľ	5	_	38.755
1975G56 1838G54 173674 14288 1565486 1708672 1808G55 2 04437 2 23447 2 444488 2 673047 2 925377 3 186278 3 49557 3 196278 3 49557 4 4928 1 400477 1 4 40488 1 4 4288 1 4 4 44488 1 4 4 44488 1 4 4 4 44488 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Scount factor	-	1 0935	-	1.0935	1.0935	Ц	1 1	Li		1.0935	1.0935	4-	-Ł	1	4-	+	یار	4	52449
1,57,000 1838643 175801 1,60229 1,60	Colorado per noit over	-4-	1.0835		1.307544	1.4298	563486 1			Ļ	=	ــ	7	+-	┸	٠.	-	4.	ľ	0935
- 2.463515 1935 1.0935 1	velizing factor				- 1			Ш	*	165211	24	٠	↓_	4.	_	_	-	4-		97332
1.0935 1.							639596	_	0	489159	ш	⊷	0	0	14	0	90	٠.		20107
1.0935 1.				 -				+	+	+					Ш	L		_	4_	3
1,0935 1195742 1307544 1,4298 1,553468 1708672 1869556 244327 2,444488 2,57347 2,444488 2,57347 16957 3,19574 2,19577 106977 1,014707 1,01		1.0935	1.0935	1.0935	1.0935	_	1	1 0035	1 0000	╧	_	1	\downarrow	_	4					
1244.015 1158.727 1080.719 1009.223 943.6926 884.3375 233.929 131.8229 15.943494 81.64211 547.4464 822.947 81.79272 45.70034 4973.22 0.104707 0.104		1.0935	1.195742	1.307544	1.4298	<u>.</u> .	٦,				ŀ	1	_		0935			İ.	L	0935
0 104707 0 104707 0 104707 0 104707 0 105707 0 104707 0 1		1244.015	1158.727	1080.719	1		1	٠.		+-	4 6600 2	2,304/	3.1	_	35 128 3.8		ᆔ		-	34582
1995. 27 1896 757 169	tor at 9.35 %	0 104707	0.104707	0.104707	ıı	104707	10	.			04707 0 1	04707	04707		4807 500		. 			5421
2.463513 2.4		1896 757	1696 757	1696.757			L i		•	1		_		757	-	J4/U/ 0.1	0.4707	04707 0.10		707
		2.463513	2.463513	2.463513	2.463513								63513 24	63513 2 4	101 101	0 / 0 / 00	0 /0/	96.757		6.757

Capacity							
Year	2	7.	22		-	_	
Decisions of the end of year linked to deci-	00000		-924.857	-1093.71	-1282.78	-1306.8	
Net debt for Interest calculation	755 808		100.000	20.00		200	
nterest rate	7%	ㅗ	2,8	ட	┸	1	
nterest cost	0					0	
Equity	2496			ľ	2496	2496	
ROE	23%	23%			ı		
ROE Amount	580.29	580.29	580.29	580.28	580.29	580.29	
Generation ('000 kWh)	14743080	14743080114743080	14743080	14743080	14743080	14743080 14743080	
Heat rate (KCI/KWVI)	2176	2178	2178	21,6	2176	2178	
of Coal (Noaveg)	3800	3800	008	380	8	88	
Coal Coa in Toos	00110				0.604444		
Rate Year Cost Cost Cos	4030 45	402045	400045	13/3	5751 ES	-	
Excelation	1000	1000	200		200	1000	
Escalated cost of coal	3148 BR1	2226 77E		15	2074 000	2000	
Coal cost with Esc. (Rs. Crore)	2804.107	2972 634			3541 457	1754 29R	
Coal transport cost per ton for 100 Km: Base	125.1	1.961			125.1	126.1	
Escalation	1 0237	1 0237	Γ	100		10237	
Escalated Transport Cost	195,2285	22	204 5898	209 4386	214 4023	219 4837	
Coal Transport cost in Rs. Crore	173.9736	178 0967	182 3176	186 6386	191 0619	195 5901	
Depreciation	2%	2%	2%	2%	2%	2%	
Starting	8250	8250	8250	8250		86	
Depreciation	169.0508	169.0508	169.0508	169	189	100	7474 BE
O&M Norm						-	
ൾ.ന Esca	1.04954	1.04954	1.04954	1.04954	1,04954		
Esc. O&M Norm Rs crore/MW	0.301948	0.316907	0.332606	0.349083	0.386377	0.384527	
MW Capacity	1980			1980			
O&M cost in Rs. Crore	597.8572	627.4751	658.5602	691 1853	725.4266	761 3642	
Secondary Fuel Norm (mMWh)	1	1	1	L I			
Secondary Fuel Con. in kilo Litres	14743.08	14743.08	14743.08	14743.08	14743.08	14743.08	
Secondary fuel cost in Base Year Rs/KL	34.94487	34.94487	34,94487	34.94487	34.94487	34.94487	
Esca. For secondary fuel cost	1.0801	1.0801	1.0801	10801	10801		
Esc. Cost of secondary fuel Rs/KI,	105.9189	112,2846	119 0329	2	133.7708	141,8102	
Secondary fuel cost in Rs. Crore	0.156157	0.168542	0.175491	0.188038	0.197219	0.209072	
Cost of Coal 1.5 months	350.5134	371.5792	393.9111	417.5852	442.6821	489.2873	
Cost of secondary fuel 2 months	0.026026	0.02759	0.029249	800	0.03287	0.034845	
hant Spares @ 20% of O&M	119.5714	125.495	131.712	38.2371	145,0853	152.2728	
Keceivables Z months	223.8034	223.8034 223.8034 2	223.8634	23.6034	223 8034	223.6034	
ord: working Capital Induned	593.7142	20 /05Z	49.2338	8	5	845 1983	
Therese Cost on Marking Course	970	2000	2000	┸	4.A		
Salvage +carbon	074-70	04,000	7000	_L_	2007	/0.00/63	
Toati Cost	4387 889	4592 575	4809 11R	5038 483	5280 509	55.35 87	
uxiliary Consumption	96	200	8			L	
Sale Per Year crore units	1341.62	1341 87	1341 82	1341 82	1341.82	1341	
nit Cost Rs/kWh	3 270574	3 423158	3 584558	3 7552GR	1.		A8 2270B
Discount rate 9,35 %	1.0835	1.0935	1 0835	1 0835	1 0935	1 0835	
Discount factor	5.484582	5 975521	8 534232	7 145187	7813257	8 543797	
Discounted per unit cost	0.598504	0.572883	0.548581	0 525571	0.503749	0.483041	25.17082
evelizing facor	0.182997	0.167349	0.15304	0.139954	0.127988	0.117044	10,44338
Levelzade attended potate and a second and a second attended and a second attended at a second at a se							
4.0	į	- 1					
Discount Kate	1.0935	1.0935	1.0835	1 093	1 0835	5 1 0935 1 0935	
Oiscounting Pactor	5.875521	534232	7.145182	7.81325	8.543787	9.342642	
scounties features 0.35 %	734.3074	02.8486	673.0572	82.82	618.0519	592.645	30881.95
to Charles				2	0.104/0/	0,104707	

÷ .

1980 1980		2339.2 2339.2 2339.2 245 245 245 2476 2376 2376 2376 2376 2376 2376 147.3302 1.080.1 1	100 100	1903 6 1486 435.6 435.6 1468 1032.4 7% 7% 7% 2496 1032.4 2496 12496 2496 2496 2496 2496 2496 14743080 14743080 14743080 2776 2476 2776 2776 2776 2776 2776 2776 2776 2776 1038.15 1038.15 10601 1080.15 1064.322 1668.338 125.1 10237 125.1 1623.1 125.1 10237 10237 10237 125.1 1623.1 125.1 1623.	1488 1022.4 356.6 1032.4 435.6 435.6 1032.4 356.8 236.8 236.2 236.	12 56.6. 153 56.8. 153 56.	13 14 14 15 15 16 15 16 16 16 16 16 16 16 16 16 16 16 16 16	15 16 6476 158.6536 896.4776 158.6538 8955 896.4776 158.6538 895 2486 2486 2486 2486 2486 2486 2486 2486	16 60 50 60 60 60 60 60 60 60 60 60 60 60 60 60	7 7.8 18 17.505
of the year 588.4 4952.8 4 452.8 er. Linked to dep 435.6 and 2435.6 and 2435.		210.4 2774.8 245.6	2339.2 196 435.6 4, 1903.6 4, 1903.6 4, 1903.6 4, 1903.6 1, 1003.1	1469 1 103 6 13 6 13 6 13 6 13 6 13 6 13 6 1	111 (101) 101 1	2.6. 1.0.257. 7.8. 2.8. 2.8. 2.8. 2.8. 2.8. 2.8. 2.	14 427 7483 1 69 6258 1 8 2628 2 8 1 8 2628 2 8 1 8 2628 2 9 1 8 2628 2 9 1 8 2628 2 9 1 8 2628 2 9 1 8 2628 2 9 1 8 2628 2 9 1 8 2628 2 9 1 8 2628 2 9 1 8 2628 2 9 1 8 2628 2 9 1 8 268 2 9 1 8 268 2 9 1 8 268 2 9 1 8 2 2 8 1 8 2 8 2	158.8958 895 895 895 895 895 895 895 895 895		2-28.454 417.505 417.505 24.80 24.80 24.80 24.80 24.80 27.80
ar. Linked to dep. 5824 45828 46528 8600 46528 8600 46528 6600 46528 6600 46528 6600 46528 6600 46528 6600 46528 6600 46528 6600 46528 6600 46528 6600 46528 6600 46528 6600 46528 6600 4600 4600 4600 4600 4600 4600 460		7 8 8 45.6 4	2339.2 19; 435.6 4, 435.6 149; 43	10 10 10 10 10 10 10 10 10 10 10 10 10 1	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2	4.27.7.017 4.27.7.017 1.02.618 1.02.628 1.	158 6935 89 99 96 97 96 97 96 97 97 97 97 97 97 97 97 97 97 97 97 97		2.88.45 -417.505 -417.505 -417.505 -417.505 -23% -88.28 -148.028 -148.028 -148.028 -148.028 -148.028 -148.028 -15.028 -15.028 -16.028
of the year 5824 5388.4 4952.8 4 4952.8		7 8 8 23.5.6 23.	2338.7 197 434.846 103.6 34.3846 103.6 34.3846 103.6 34.3846 103.6 35.80.29 588 25.80.29 389 1743080 14743 3800 3 3800 3 3800 3 174308 11564 11023 1 103 1023 1 103 1023 1 103 10244 47 117.6 43.6 43.6 43.6 43.6 43.6 43.6 43.6 43	103 6 143 146 103 146 103 167 146 103 163 163 163 163 163 163 163 163 163 16	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2. 596.8 6. 163.0508 7. 73.0508 7. 73.0508 7. 73.0508 7. 73.0508 7. 2480 7. 2	144 162,7463 162,6268 162,6268 162,6268 162,626 174,626 174,626 175,64	15 58.6956 89. 59.64.755 7. 5.328683 7. 5.328683 7. 2.236 2.236 2.236 2.236 2.236 1.0504		18 18 248 454 18 506 417 506 4
Action A		210.4 2774.8 645.6 435.6	2338.2 4356. 4.1 198.6 198.6 198.6 2496. 2 2496. 2 2496. 2 250.044.1 1080.14.457 137.8 250.044.4 1080.16.6 250.044.4 1080.16.6 250.044.1 1080.1	1468 1035 147 147 158 158 158 158 158 158 158 158 158 158	100 100	2.6 (16.9 0.500 0.	2 427.7463 1 169.626 1 18.26282 2 248 2 248 2 248 2 248 2 248 2 248 1 17.661 1 10.821 1 10.821	28.695.89 166 166 166 166 166 166 166 166 166 16		248.454 198.056 417.56 2496 2346 880.28 147.3080 247.20 880.28 10.20 10.
an Linked to dep		455.6 435.6 435.6 774.8 239.2	435.6 4. 435.6 1. 1903.6 1	35.6 1433 1468 1033 24 2496 24 24 2396 2396 2396 2396 2396 2396 2396 2396	2.2 4 565 458	169 0500 169 0500 17 1008 1500 17 1008 15	1 109 0.008 1 109	189.0528 196 2496 2496 2496 2496 2496 2496 2496 24		168.0308 147.505 2486 23% 680.23% 680.23% 147.43080 20.04444 10.0917 10.091
176 176		774 8 2335.2 786 185.135 1 78. 2486 2456 2456 2456 2456 2456 2456 2456 245	19036 113.68 12.88	1468 1037 78, 72, 828 2486 24 2486 24 2486 24 2486 24 2486 24 2487 681 2489 381 251 128 251 128 251 128 251 1489 251 1689 251 1689 251 1489 251 1489	284 550 550 550 550 550 550 550 550 550 55	8 427.7489 19 427.7489 19 52.86 19 52.86 19 52.86 19 52.86 19 52.86 10 604444 10 604444 10 604444 10 607.87 10	258 6985 1 18.26282 2 2486 2 2486 2 1474,3080 1 1474,3080 1 1474,3080 1 1474,3080 1 1474,3080 1 1474,3080 1 1474,3080 1 1474,3080 1 1474,3080 1 1574,616 2 1686,528 1 1686,528 1 1686,538 1 1686,538 1 1686,538 1 1687,618 2 1687,618 2 1687,	99.64775 7.7 2480 2480 2580.28 280.28 280.28 280.00 147 2170 2580.28 1038.15 1038.15 1125.1 1125.1 113.64.44.404.25.17 1025.1 113.64.34.404.25.17 103.17 103.17 104.93.4 1.1 104.93.4 1.1 104.93.4 1.1 104.93.4 1.1 104.93.4 1.1		74, 760 774, 775, 775, 775, 775, 775, 775, 775,
7% 7% 7% 7% 7% 7% 2466 2486 2486 2486 2486 2486 2486 2486 2486 2486 2486 2486 2480 2486 2486 2486 2476 2473 2473 2476 2477 2476 2476 2476 24444 0.60444 0.60444 0.60444 0.60444 24043 1.00.543 1.06044 1.0601 2504 25.734 180.867 1.0231 2504 25.734 1.00.543 1.168.68 2506 1.100.543 1.168.68 1.100.543 1.168.68 2507 1.100.543 1.108.68 1.100.54 1.108.68 AV 1.100.543 1.100.54 1.108.68 1.108.1 AV 1.100.543 1.100.54 1.108.68 1.11 AV 1.100.543 1.100.54 1.108.61 1.11 AV <		7% 7% 7% 7% 7% 7% 7% 7% 7% 7% 7% 7% 7% 7	7% 134.3846 103.6	2335 72.892 24 24 25 25 25 25 25 25 25 25 25 25 25 25 25	777, 778, 421, 777, 778, 421, 777, 778, 421, 778, 421, 778, 421, 778, 778, 778, 778, 778, 778, 778, 77	7% 7.8 1.04954	18.26282 18.26282 18.2628 18.2028 18.2028 18.2028 18.2028 19.2	2.2% 2.2% 2.2% 2.2% 2.2% 2.2% 2.2% 2.2%		7% 2496 2396 2396 2402 2402 2402 2402 2402 2402 2402 240
2466 2486 2486 2486 2486 2486 2486 2486		2.486 165.138 1 2466 2460 2460 2460 2460 2460 2460 2460	34,3846 1103.6 23% 23% 2 580.29 58 580.29 58 510.20 147.43 350.0 3 350.0 3 35	2335 72.882 2386 239 2236 147.430 20.0.29 680, 20.0.29 680, 20.0.29 680, 20.0.29 680, 20.0.29 680, 20.0.29 1280, 20.0.29 1280, 20.0	236 226 227 237 237 237 237 237 237 237 237 237	1 30.18684 24868 280.28 280.28 290.28 201.28 201.28 1060.44 1060.44 1060.13 1060.13	18.26.28 18.26.29 18.26.29 17.23.20 17.23.20 10.38.15 10.38.	20% 20% 20% 20% 20% 20% 20% 20% 20% 20%		2486 88028 14780028 2178 2003404 108015 108015 108015 108015 108015 108016 1080
23% 23% 23% 23% 23% 23% 23% 23% 23% 23%		23% 23% 23% 23% 23% 23% 23% 23% 23% 23%	2496 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	23% 253% 253% 253% 253% 253% 253% 253% 2	389 238 238 238 238 238 238 238 238 238 238	23% 23% 23% 23% 23% 23% 23% 23% 23% 23%	23% 2450 2450 2450 2450 2450 2550 2	23% 23% 23% 23% 23% 23% 23% 23% 23% 23%		23% 680.28 147.2080.29 280.29 280.29 280.17 1028.17 10
680.29 6.0		80.29 560.29 10.00 11.00	880.29 800.00 147.43 800.00 147.43 800.00 189 800.00 189 800.	200.29 680. 200.29 680. 200.00 147430 200.00 36 4444 0.6044 4444 0.604 200.1 109 200.1 109 200.1 100 200.1 100	2.28 68.2.2 2.29 68.2.2 2.20 14.4.20 2.20 2.20 2.20 2.20 2.20 1.00 2.20	\$60.280 \$60.280 \$60.280 \$60.080 \$60	860.28 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 10.824.4 11.08.4	580.28 2176 2276 2276 2300 3900 3900 3900 1031.17 1031.17 1021 173.62 177 173.62 177 173.62 174 174 173.62 177 173.62 174 173.62 174 174 173.62 174 173.62 174 174 174 174 174 175 177 177 177 177 177 177 177 177 177		880.28 360.20 36
14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 14743080 1474308 14743		3000 14743380 1786 2176 2176 2176 2176 2176 2176 2176 217	1749380 14743 2176 2 2176 2 2436 3911373 8911 1088 15 1031 1188 16 1031 1188 1	2080 147450 2176 32 4444 0.6044 11373 881153 88115 1038 9801 1.088 25.1 122 25.1 122 25.1 1058 25.1 1058 2	147,400 147,	14743080 360 360 360 360 360 360 360 36	2176 2176 10.803404 10.803404 10.803415 1038.15 1038.15 1038.15 11.55 11.55 11.55 11.63.52 11	2176 2176 2176 2064444 0.6 8811373 89 1038.15 11 1038.15 11 1023.7 1123.7 1134.7451 155 8250 1104954 1, 10		14743080 2176 2176 0.604440 1.0801 1.0801 1.0201 1.0201 1.0237 1.
2176 2178 2178 2178 2178 2178 2178 2178 2178 2178 2178 2178 2180		2176 2176 2400 2800 2444 0.8346 0.834	2176 2 3800 0694 3801 0693 3811373 8911 1038.15 1031 1038.15 1031 125.1 1038 125.6 1104 134.457 137.8 6 435.6 4 10.457 10.0 10.457 137.8 6 435.6 4 10.457 10.0 10.457 137.8 6 435.6 4	2176 21 38950 38 38444 0.8044 1874 89113 1080 1.08 25.1 1.08 25.1 1.02 25.1 1.02 25.1 1.03 25.1 1.03 25.1 1.03 25.1 1.03 25.1 1.03 25.1 1.03 26.1 1.03 27.2 1.03 27.2 1.03 27.3 1.03	176 211 211 212 213	2176 200 200 200 200 200 200 200 20	2176 2800 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	2176 200444 0.60444 0.60444 0.60444 0.00444 1.00444 1.00494		2176 3600 3600 3601 3601 3601 3601 3601 360
0.00444 0.00	3600 3600 3600 3600 3600 3600 3600 3600	3600 3600 4444 0 604444 0 604444 0 604444 0 604444 0 604444 0 60444 0 60473 0 605 1 10501 1 10	3500 33500 33500 33500 34500 3	2600 36 4444 0.6044 4744 0.6044 4742 0.6044 472 1086. 6901 1.03 6901 1.03 6901 1.03 6801 1.03 68	900 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	250 250 250 250 250 250 250 250 250 250	3600 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	3600 3600 3604 1038.15 10601 1.0601 1.25.1 1.25.1 1.73.6501 173.650		3600 0.60444 1038.15 1.0861 1.0861 1.025.17 1.025.17 1.025.17 1.025.17 1.025.17 1.025.17 1.025.17 1.04954 1.04954 1.04954 1.04954
1038.15 1038	91431 0 60444 0 60 91431 1081 137 891 10801 1081 17 1 10801 10801 1 1 10801 128 824 147 1081 128 1 1 1082 1 1023 1 1 1082 1 1023 1 1 1082 1 1023 1 1 1083 1 1 1083 1 1 1083 1 1 1084 1 1 1084 1 1 1084 1 1 1084 1 1 1084 1 1 1085 1 1 1086 1 1	0.604444 8911373 108015 108016 1381,879 1381,879 147,3894 131,346 8250 435,6 10,48964	8911373 8911 1080 1 103 1080 1 103 1080 1 103 1081 1 103 1184 1 104 125 825 114 4 125 825 114 4 136 825 4 104954 1 104 117739 6 186	4444 0.6044 1873 8815 10313 2801 10813 2801 1080 2801 1080 2801 1080 2802 1680 2802 16	100 100	0.604444 0.604444 0.604444 0.604137 0.60413 0.60413 0.60413 0.60413 0.60414	10.804444 10.80415 10.80	0.00444 0.00 10.00 1.00 1.00 1.00 1.00 1.00 1.0		9911373 1088 15 1088 15 1088 15 1088 15 1088 178 125 1 165 01 108 0508 169 0508 108
1036 137.2	811373 8911373 891 0081, 1 10801 1 101 1 10801 1 1081 1 101 111135 1 138, 824 147, 111 1125, 1 138, 824 147, 1125, 138, 138, 82, 84, 83, 84, 83, 84, 84, 84, 84, 84, 84, 84, 84, 84, 84	8911373 1038.15 152.0551 152.0551 1391.879 125.1 10237 131.3484 13	9911372 8911 1028.15 1031 1028.15 1031 1755.303 1755. 475.837 1564. 475.837 114. 10237 110. 10237 1137. 1024.457 137. 8256 8256 825 8256 8256 4. 104954 1.04	1373 89113 18.15 1038, 18.20 1038, 1.422 1860,9 1.422 1668,3 1.322 1658,3 1.322 1658,3 1.322 1658,3 1.322 1658,3 1.325 1658,3 1.325 1658,3 1.325 1658,3 1.325 1658,3 1.325 17,0 1.325 17,0	9113; 991	20 8911373 1038.15 1038.15 1038.15 1039.13 1039.16 103	8 11373 1028.15 1028.15 10217.017 10237 1155.1 10237 1168.6239 1151.1835 1151.1835 1151.0508 1151.0508 1151.0508	1038.1373 89 1038.157 1038.157 1038.157 1038.157 1038.177		8911373 10801 5 10801 5 10801 5 1085 198 125 1 125 1 160 010 109 0508 109 0508 109 0508 109 0508 109 0508 109 0508
1038.15 1038.16 1038.15 1038.15 1038.15 1038.15 100.243 1128.15 123.1 123.	008.15 1038.15 103 1.060.1 1.060.1 1.1 1.060.1 1.1	1080.15 1060.1 1060.1 1061.979 1023.7 107.3894 131.3442 5% 8250 8250 435.6 1.04954	1038.15 103 1080.71 1564 125.37 1564 125.37 1564 125.37 1564 126.37 10 56.8825 1544 134.457 137 8 8256 4 435.6 4 10.4854 1.04 177396 0.186	8.15 1038. DBC01 1.08 DBC01 1.08 DBC01 1.08 25.1 122 25.1 122 25.1 102 25.8 168.11 25.6 433 25.6 433 25.6 433 25.6 433 25.6 433 25.6 433 25.6 433	100 100 100 100 100 100 100 100 100 100	1038-15 10601 1060	1038.15 1.080.1 1.080.1 1.080.1 1.073.7 1.073.	1038.15 10 10801 10801 10801 10801 10801 10831 10837 1184.7461 1586 184.7461 1586 1850 10805 108		1039.15 10801 279.99.985 2495.174 125.1 125.1 165.0114 169.0508 169.0508 100.27416
1 0000 1	1,000 1,000	1.0601 1391.979 1391.979 125.1 1.0237 131.3894 131.3482 5% 8250 435.6 1.04964	1,0801 10801 10801 10801 10801 1186,89,900 175,81 186,41 10231 10,200 1184,427 10,100 1184,428 43,56 4,100 4,100 1186,41 10,10	0801 1.08 6.422 1880.9 1.322 1688.3 25.1 102 25.1 102 6.43 140.9 8.43 140.9 8.256 82 8.256 82 82 82 82 82 82 82 82 82 82 82 82 82 8	10801 1080 232 1972.78 232 1972.78 234 1758.00 237 1.022 237 1.022 237 1.022 250 825 250 825 2	1,0601 1,0601 1,001 1,002 1,00	1,0601 1,2217.017 1,125.1 1,0237 1,10237 1,10237 1,10237 1,10237 1,10237 1,10335 1,103	10601 256.239 2084.023 125.1 10237 173.6501 177.6501 177.6501 178.		1,0801 2495,174 2495,174 125,174 186,0114 2% 2% 169,0508 1,04954 1980
10,08.45 10,05.43 1168,685 10,05.43 1168,685 10,05.47	11 136 1388 824 1475 18.64 1475 18.65 131 128.1 128.1 128.1 11.25 131 128.1 131 128.1 131 131 131 131 131 131 131 131 131 1	1562,025 1391,979 125.1 1,0237 147,3894 131,3442 5% 435.6 435.6 1,04964	655.903 1755. 175.637 1564. 10237 1.0 1.0237 1.0 130.8825 154.4 134.67 137.8 8250 8 435.6 4.104 1.04954 1.04	1,422 1860.9 1,322 1668.3 225.1 122 2237 1.02 4584 140.90 5% 5 5% 6 5% 6 35.6 433 135.6 433 135.6 433	23.3 1972.78 23.8 1758.00 55.1 1.025.7 125.00 155.00 156.0	2091.328 1 1863.66 1 125.7 1 1023 1 147.6638 2 185.7028 2 185.7028 2 185.7028 2 185.7028 2 189.0508 6 169.0508	2217.017 1975.666 1975.666 1 10237 1 10237 1 169.6299 1 151.1635 2 8 2250 2 189.0508 1 104954	286,259 2, 2094,404, 221 125.1 1027 173.6501 173.6501 174.7461 154.7461 159.0508 169	2841.2 2353.7 2253.7 2257.1 225.2 225.2 250.0 25	2799.989 2495.174 125.1 1.0237 186.2916 2% 28.250 1.04954 1980
100 cm 1	68.401 1238.622 1313 17.267 1.025.1 1.025.1 1.025.2434 145.24314 125.333 128.25.6 25.6 435	1391.979 125.1 147.3894 131.3442 5% 8250 435.6 1.04954	75.637 1584. 125.1 1 10237 10 50.8825 154.4 134.457 137.8 8250 8 435.6 4 104854 1.04	1,322 1658.3 25.1 122 25.1 122 2237 1.02 688 158.1 6% 6 5% 6 8250 8250 8250 8250 8250 8250 8250 8250	238 1758.00 227 125 227 125 228 144.24 25% 825 25% 825 25% 435 10.0050 2	1863.86 1 125.1 1 125.7 1 10.237 1 147.6639 2 169.0508 1 10.4954	1975.666 1 125.1 1 125.1 1 1023.7 1 168.6299 1 151.163.5 1 169.0508 1 169.0508	125.1 125.1 173.6501 17 154.7451 156 8250 159.0508 166 104954 1	0.277 235.3.77 (125.1 12	2495.174 125.1 1.0237 1.0237 1.0237 1.023 1.023 1.04954 1.04954 1.980
Total Tota	125.1 125.1 1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	125.1 10237 147.3894 131.3442 5% 8250 435.6 1.04954	125.1 17.1 17.1 17.1 17.1 17.1 17.1 17.1 1	25.1 122 2237 102 4584 158.11 5% 5 825 62 35.6 433 35.6 432 4954 1.049	125 1237 1.022 1181 161.86 144.24 15.6 4.35 15.6 4.35 1.046 1.046 1.050	125.1 10237 165.7028 23 147.6639 28 2250 28 2250 16 169.0508 16 104954	125.1 1.023.7 1.023.7 1.023.7 1.023.6 1.049.5 1.049.5 1.049.5 1.049.5	125.1 1.0237 172.6501 177 154.7451 158 2.98 8250 169.0508 166 1.04954 1	125.1 125.7 126.0237 11.022.7 12.023.7 12.1022.2% 2.2% 2.2% 2.2% 2.2% 2.2% 2.2% 2.2	125.1 1.0237 186.2916 186.0114 2% 2% 169.0508 1.04954 1980
I. Crore 1 1,223 1,0237 1,0237 I. Crore 11,4813 114,1244 116,124 131,1 RESO 8250 8250 8250 8250 A35.6 435.6 435.6 435.6 435.6 WW 117 12.37 13.08 13.08 WW 1360 137 0.138 13.08 WW 147 12.37 0.138 13.08 WW 14743.08 14743.08 1980 1980 A Year RsirL 34.94487 34.9487 34.9487 34.9487 Sir. Crore 1.0601 1.0601 1.0601 I RsirL 34.94487 37.04506 38.24487 37.04506 Sir. Crore 0.008567 0.009103 0.009668 37.04506 38.321.448 Red 32.3 6057 3.05606 3.05606 3.05606 3.05606 3.00966 Red 32.0567 32.0567 34.325 3.05606 3.06606 3.06606 3.06606	1,0227 1,0237 1, 17,3878 1,0237 148, 25% 5% 148, 14,050 1,00	1,0237 147,3894 131,3442 5% 5% 8250 435.6 1,04954	1,0237 1,0 50,8825 134,4 134,457 137,6 8250 8 435,6 4, 1,04954 1,04	2237 1.02 4584 158.11 5437 140.90 5% 5 8250 82 135.6 433 4954 1.049 5184 0.1954	227 1.022 191 151.866 158 14.241 5% 5 5.6 435 5.6 435 408 0.20506 574 406 072	37 1.0237 35 165.7028 33 147.6639 30 8250 30 169.0508 34 1.04954	1.0237 1.0237 1.0235 1.	1.0237 177.6501 177 154.7461 158 2.50 169.0508 166 1.04954 1		1.0237 186.2916 186.0114 2% 2% 8250 169.0508 1.04954 1980
11.50 12.00 12.11 12.00 12.11 12.00 12.00 12.11 12.00 12.0	77.2878 140.8439 143. 2.4314 125.333 128. 878 8250 8250 14.5.6 435.6 4 14.6.7 10.4954 1.0 1482 0.155443 0.16 1980 1980	131,3894 131,3442 5% 8250 435.6 1,04964 0,169022	50.8825 154.4 134.457 137.6 5% 8250 8 435.6 4, 1.04954 1.04 107396 0.196	4584 158.11 543.7 140.90 5% 5 8250 82 135.6 433 4954 1.049 5184 0.1954	191 161.866 144.241 5% 5 5% 5 5.6 435 6.6 435 6.0 0.0000 6.0 0.0000 6.0 0.0000 6.0 0.0000 6.0 0.0000	25 165.7028 27 147.6639 28 250 50 8250 6 169.0508 10 0.715748	168.6299 7 151.1635 9 2% 8250 8 169.0508 1	177. 6501 177. 6501 177. 6501 178. 6501 182. 608. 166. 669. 166. 608. 166. 166. 166. 166. 166. 166. 166. 16	4136 162.16 250 62.16 8250 62.0 0508 169.05 104954 1.0496 18849 0.2617	186.2916 186.0114 2% 8250 169.0508 1.04954 1980
F. Crore 111.4812 14.124, 116.8281 5.6. 82.50 8	2.4314 125.333 128. 5% 826 826 626 435.6 435.6 4 14.65 10.04954 10 0.1462 0.153443 0.16 1980	131,3442 5% 5% 8250 435.6 1.04954 0.169022	134.457 137.6 5% 5% 8250 8 435.6 4. 1.04854 1.04 1.04854 0.186	5% 140.90 5% 5 8250 82 135.6 433 1954 1.049 5184 0.1954	5% 144.24 5% 5 550 825 5.6 435 5.6 435 6.0 0.2050 607 406 0.2050	53 147.6639 % 2% 50 8250 6 169.0508 54 1.04954	151.1635 2% 8250 3 169.0508	154.7451 158 2% 8250 169.0508 169 1.04954 1		6 2% 6 2% 0 8250 8 169.0508 4 1.04954 7 0.274116 0 1980
10	8256 8250 435.6 435.6 435.6 4 14.62 1 1.04954 1.0 0.1462 0.153443 0.16 1980 1980	5% 8250 435.6 1.04954 0.169022	5% 8250 8 435.6 4: 1.04854 1.04 1.77386 0.186	5% E2 8250 E2 35.6 433 4954 1.049 5184 0.1954	5% 5 250 825 5.6 435 5.6 435 1.0496 108 0.20506 607 406 074	% 2% 50 8250 6 169,0508 54 1,04954	2% 8250 169.0508	2% 8250 169.0508 169 1.04954 1. 0.237103 0.2	2% 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	6 2% 0 8250 8 169.0508 4 1.04954 7 0.274116 0 1980
MAY 1.27 1.2.37 1.2.56	435.6 435.6 1.04954 1980	435.6 435.6 1.04954 0.169022	435.6 4: 435.6 4: 1.04854 1.04 177396 0.186	135.6 82 135.6 438 4954 1.049 5184 0.1954	250 825 5.6 435 954 1.0496 408 0.20508 980 198	6 169,0508 6 169,0508 74 1.04954	8250 169.0508 1.04954	8230 169.0508 169 1.04954 1 0.237103 0.2	8250 825 0508 169.050 4954 1.0495 18849 0.26117 1980 198	0 8250 8 169.0508 4 1.04954 7 0.274116 0 1980
A35.6 436.6 436.6	1.04954 0.153443 1980	1.04954	1.04854 1.04 1.177396 0.186	35.6 433 4954 1.049 5184 0.1954	5.6 435 954 1.0496 408 0.20506 980 198	.6 169,0508 54 1.04954	1.04954	1,04954 1 0,237103 0.2	0508 169.050 04954 1.0495 18849 0.26117 1980 198	6 169.0508 4 1.04954 7 0.274116 0 1980
AW 1.1.7 12.37 1.3.08 AW 0.117 0.1227 0.1301 Lines 231,66 244,926 258,984 VAPA 1.743.08 14743.08 14743.08 set Year 1.743.08 14743.08 14743.08 set Year 1.0501 1.0501 1.0541 set N.L. 34.94487 37.04506 3.27143 set Crore 0.008567 0.009103 0.009568 set M 45.32 48.9852 57.788 set M 24.532 48.9852 57.786 set M 25.3667 0.003567 0.003667 set M 25.5676 35.5676 36.4325 capital 385.5857 395.1885 405.3694 physical 385.6176 36.4325 capital 374.70272 35.6176 36.4325 set M 2696 36.5676 36.4325 set M 385.6176 36.4325 set M 385.6176 36.4325	1,04954 0.153443 1980	1.04954	1.04854 1.04 1.177396 0.186	4954 1.049 3184 0.1954	408 0.20508 980 198	34 1.04954 as 0.215248	1.04954	1.04954 1	19849 0.28117 1980 198	
MW	1.04954	1.04954	1,04854 1,04 1,177396 0,186	1954 1.049 3184 0.1954	408 0.20508 408 0.20508 1980 198	20 0 215248	4224	1.04954	1984 1 0485 1980 0.26117 1980 198	
1960 1980	1980		1000	100-0	980 0.2030 980 198		1 10000	2.00 00 0.0	1980 198	
231.66 244.226 258.944 (Wh) 4 Valves 17.743.08 14.743.0	3	1000		0,000		1000	1000			
(VM) 1		224 6644	264 2447 369 6443	186			447 3048			542 7498 SEG ETT
o Lines e Year RsiKL 34.94487 34.9487	400.00		1 200.0							1
o Year Reific. 34.9487 21.9487	44743 08	4 4743 DB 44743 DB 4	190 54744 BO 5474	3 OB 14743 OB		44742 00 14743 00 14742 00		44743 OR 14743 OR	43 NR 14743 NB	90 14742 AB 14743 AB
ASSISTANCE OF STATE O	24 04 407	24 04 497	24 04407 34 04	24 64400 14/43,00 14/43,00 14/43,00	200 14 45.	7 37 07/07	24 04407	34 04487 34	34 04497 34 04497	
Riskft, 34.94487 37.04506 39.27145 34.94487 37.04506 39.27145 34.94487 37.04506 39.27145 34.9487 37.04506 39.27145 34.9487 37.04506 39.27145 34.9487 3	1 0601 1 0601	1 0801	1 0601	AC 4 04-04-04-04-04-04-04-04-04-04-04-04-04-0	504 4 060	1 0604	1 0801	10801	0804 1080	1000
Crore 0.05152 0.004616 0.051899 0.004018 0.005182 0.004010 0.005899 0.004010 0.009868 0.009910 0.009968 0.009910 0.009969 0.009910 0.009969 0.009910 0.009969 0.009910 0.009969 0.009910 0.00996 0.009910 0.009969 0.009910 0.009969 0.009910 0.009969 0.00999	13374 4R 7RR1R 49 5	9 2822 62 6080	5 73885 50 DB	8877 63	RA GRADA	17 70 19559	74 82836	79 11141	3 AGG AR SORT	3670 76
115.6418 122.5518 129.95696	065067 0.068977 0.07	3123 0,077517	082176 0.087	7115 0.0923	351 0.09790	0.103785	5 0.110022	0.116635 0.1	23644 0:13107	0.13895
contins 0.008567 0.003103 0.00965 E.M. 46.322 48 9852 51.3968 Ted 38.5,857 395 1895 405.3694 Capital 34.70272 35.6106 36.43250 Capital 34.70272 35.6106 36.43250 Capital 0.009591 2740.333 2786.812 2.009591 2.043006 2.077199	IS 0502 154 8278 164	1329 173.9973 1	84.4546 195.5	5403 207 29	923 219 750	35 232 9575	5 246,9583	261 8005 27	5347 294 214	311 896
EAM 46.332 46.9652 551.7968 225.6654 225 6024 225.6054 225.6654 225 6024 225.6054 395.5657 395.1956 405.3694 Capital 34.70272 35.56706 36.4325 0 0 0 0 0 0 0 0 0 0 2696.108 2740.939 2786.812 36.6059 2.077192 2.009591 2.043006 2.077192	010844 0 011496 0 01	2187 0.01292	013896 0.014	4519 0.0153	392 0.0163	7 0.017297	7 0 0 18337	0.019439 0.0	20607 0.02184	6 0.023159 0.024551
223.6024 223.6034 223.6034 223.6034 223.6034 223.6034 236.7 235.7 235.7 235.7 235.894 25.895 235.606 235.807 235.895 235.807 235.895	37.8952 60.76333 63.7	7354 66.93288 7	0.24874 73.72	2886 77.381	139 81.2148	36 85.23825	5 89.46095	33.89285 98	5443 103,426	108,549
red 385,5857 395,1895 405,3694 poltal 9% 9% 9% Capitai 0 0 0 2596,108 25,6670 38,48325 2596,108 2740,839 2786,812 134,162 134,162 134,162 2,009591 2,043006 2,077,199	3.8034 223.8034 223.	6034 223.6034 2	23.6034 223.6	5034 223 60	334 223.600	34 223,6034	4 223.6034	223.6034 22:	6034 223,603	4 223.6034
Capital 9% 9% 9% 9% 9% 9% 9% 9% 9% 9% 9% 9% 9%	7.5596 439.206 45	1.522 464.5465 4	78.3204 492	887 508.29	924 524.58	541,8165	580.0409	579.3167 59	9.703 621.265	9 644.0733
Capitai 34.70272 35.65706 36.48326 3 0	86 8%	%6 %6	8%	3 %6	9%	%6 %	%6	%5	8%	9%
2696.108 2740.939 2786.812 2 9% 9% 9% 1341.62 1341.62 2 2.009591 2.043008 2.077199	39.52854	40.63698 41.80919 43.04883 44.35983	3.04883 44.35	5983 45.746	532 47.2126	45.74632 47.21266 48.76348 50.40368		52.13845 53.97327	37327 55.91393	3 57.96659 60.1377
2696.108 2740.939 2786.812 2 9% 9% 1341.62 1341.62 2.009591 2.009591 2.043006 2.077199			0	0	0		0	_ [٥	
3% 3% 9% 9% 9% 9% 3% 3% 3% 3% 3% 3% 3% 3% 3% 3% 3% 3% 3%	2949.		3080.9 3154.743 3234.581 3320.762 3413.655	581 3320.7	762 3413.6		3265.92 3392.252	3526.539 36	3674.85 3838.401	1 4011.382 4194.34
2.009591 2.043006 2.077199 2.11456	%6	%6	%6	3%6	6 %6	%6	9,6	3%	6 %6	- }
Z.008581 Z.045008 Z.07/189 Z.11458	1341 62	1341.62	1341.62 1341.62	1.62 1341.62	62 1341.62	72 1341 62	1341.62 1341.62 1341.62	1341.62 13	2 341 62 1341 62	1341.62
1000	26/26/2	2.2954U	351443 2.410	7857 2.4757	188 2.5444	7 2.434311	7.528474	7.528567 2.7	19113 2.86TU	2.989953 3.12632
35 %	1.0935 1.0935 1.	1.0935 1.0935	1 0935 1 0935	3835 1.09			1 0935	1.0935	1.0935 1.0935	1.0935
2 000601 1 080310 1 133/42	1.4290 303480 73	130/2 1.003220	4 450230 4 078	3400 1 012550	500 0001000	0.922977	3,1802/0	3.4931.28 3.0	3.021922 4.1/92/2	4.570034 4.397
0.014405 0.037.103	1.510.1 1.50.103.2 1.50.505.1 1.50.505	1340 1.220334	480140 0 447	7333 0 4090	239 0.33 1883 84 0.37/40E	S 0.8328 B	0.781008	0.752000 0.7	0.7 (BOSS) U.BOSS/4	4 U.054252 U.02539
F.Method 1.		200	201	200						
				-				-		ļ
1.0935 1.0935 1.0935	1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935 1.0935	0935 1.0935	1.0935 1.0	935 1.09	335 1 093	1 0935	1.0935	1.0935	.0935 1.093	5 1.0935
1.0935 1.195742 1.307544	563486 1.709672 1.86	9526 2.044327 2	235471 2.444	1488 2.8730	347 2.92297	7 3.196278	3.495128	3.821922 4.1	9272 4.57003	4 4.997332
ost 2465.576 2292.249 2131,333	49.798 1725.418 161	11.49 1507.049 1	411,221 1323.	214 1242.3	313 1167.86	1021.789	3 970.566 9	322.7134 8	9.304 839.906	5 802.7047
0.104707 0.104707 0.104707 0.104707	104707 0 104707 0 10	4707 0.104707 C	104707 0.104	4707 0.1047	707 0.10470	7 0.104707	7, 0.104707	0.104707 0.1	34707 0 10470	7 0 104707
2233.571 3233.571 3233.571 3233.571 3233.571 3233.571 3233.571 3233.	33 571 3233 571 3233	3.571 3233.571 3	233,571 3233	571 3233.5	571 3233.57	71 3233.571	1 3233.571	3233.571 323	3.571 3233.57	1 3233,571

,

Sipat II 2x 500 MW; Levelized Tariff Capital Cost Capacity

Requirement Learning of the year Alok 523 482.386 -560.269 -560.2				п	ı			
Page	salance of Debt peginning of the year	404.523	1			-716.014	4 -760.056	9
March Color Colo	Jap.	77,87297		4				
The manual continues The	Net debt for Interest calculation	-482 396	1	٩	1	Ľ	780.05	
Comparison Control C	nterest rate	7%				_	1	
1140, 1140	nterest cost	٩						
Contraction	auty	1470	27.7	3	3	1	_[_	5
CDE Amount 266,0568 286,0568 286,0568 286,0568 286,0568 286,0568 286,0568 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,0586 286,050 74460000 74460000 74460000	i C	dec		l		1	-	
Secondary Fuel Con in Cost	OF Amount	DOE OFFICE	7000	_	_	- 1	4	
Accordance Acc	Societies (DOC Uses)	000000	L	4	_	7	`	
Sealer (KCJAKWIN) 2450 2	Seliciation (CO Revis)	/440UX		4	_1	4	7446000	_
3414 3414	IGET FREE (KCUKWI)	2450				2450	2450	
Sast Vear Coal Coart C	V of Coal (Kcal/Kg)	3414			_	l		
See See Coart Coar	oal con (kg/kWh)	0.717633	0.71	0 71	┺-	2	Š	
Secondary Coal Cost Coal Coal Cost Coal Cost Coal Coal Coal Cost Coal Coal Coal Coal Coal Coal Coal Coal		5343497	L	┸	_		┸	
1.0801 1	ase Year Coal Cost/Ton	874 44	B74 A1	77 770	T	1	1	
241_269 21_269 1.0801	ecolotion		ò	ò	1	-		
125.1 125.	poetation	1080	1.0801	- 1		_		
1411.351 126.1 125.2 125.2 1	scalated cost of coal	2641.268				3335.798	3536.279	
125.1 125.2 125.	oal cost with Eac. (Rs. Crors)	1411.361				_		
125.1 125.2 125.	ransport cost per ton for					L	L	ļ.,
1,0227 1	900	125.1			125.1	125.1	125.1	
146,2965 199,8653 204,5896 206,4386 209,4386	scalation	1.0237			1.0237	Ľ	_	
Second	scalated Transport Cost	195,2265			<u>.</u>	2	7	
Participation 296 276 276 276 276	oal Transport cost in Rs. Crore	145,3656	148.810R	1	L	L	┸	
Secondary Electron Secondary Seconda	epreciation	*	36		L	1	4.	
### Cost It Services 1.06591 1.0	tarting	3800 35	1	•	1	100		
### Norm #### # Norm ###### Norm ######## Norm ######### ######### ########### ######	Appreciation	77 04004	ľ		ľ	Į'	2000	Į
1.08581 1.08	Manual Ma	11.01231		182387	- 1	77.87297	_	3420.25
V. Capeacity V. C	The Dead			1		-[
### Capt In No. Capacity 0.423052 0.450958 0.450957 0.51037 0.000 1	0.00	Lecon I	ľ	١	1.06591	_		
W. Caspelland, Control W. Caspelland,	SC. CAM NOTH RS CROPANIV	0.423052		0.480857	0.512337	0	0.582099	
### Cost on Working Capital Science 423.0523 450.8557 480.8569 512.337 480.8569 512.337 480.8569 512.337 480.8569 512.337 480.8569 512.337 512.837 5	W Capacity	1000	1000		1000			
Acondary Fuel Corn In kilo Litres 7446	&M cost in Rs. Crore	423.0523	450.9357		512,337	546	582.0	
Secondary Fuel Con. In kilo Lines 7446	scondary Fuel Norm (ml/kWh)	-	•	-	-	_		
Pedrodary fuel coast in Base Year Rafkl. 20335.37 29335.3 29335	acondary Fuel Con. In kilo Litres	7448	7446		7448	7448	7446	
Secondary fuel cost 1,0901	acondary fuel cost in Base Year Rs/Ki.	29335.37	29335 37	ž	29335 37	203	ģ	
Cost of secondary fuel RaYL 88916.31 94280.16 96026.22 10580.07	sca. For secondary fuel cost	1.0801	10601		1080	1000	4	
State Cost	sc. Cost of secondary fuel Rs/KL	88918.31	942RO 18		۱		1	
out of Coal 1.5 months 176.4201 67.0226 186.263 1.0.786	econdary fuel cost in Re. Cross	86 20708			•	7,877		
Out of secondary fuel 2 months 1 (10.3451 11.0816) 1 (10.8516)	ost of Coat 1.5 months	470 4504			10.8 (802			
Second S	het of encondant fine 2 months	107.00				- 1	236 2012	
Second S	SOT CASTAL OF JOHN AT COLOR	1.03451				٣1	_	
14.7925 14.7	en Spares (4 20% of Oak)	24.61048						
Second	SCHIVADIOS Z MONUTS	114 7925	114.7925	114,7825	114.7925	_	114,7925	
Second Research Second Res	oral working Capital required	386.8576	403.7003	421.5876	440.5845		_	
Second of the continued can be continued as Second of the continued as	terest rate on working Capital	88	8%	3 %	%6	8	_	
September Construction Constru	terest Cost on Working Capital	34.81718	36.33302	37.94288	39.65261	41,46839	43.39	
Action Consumption Consu		O	0	٥	٥	٥	٠	
Wilson Consumption Sw Sw Sw Sw Sw Sw Sw S	sati Cost	2423.735	2545,382	2674.378	2811 175	2956 249	3110 108	l
Per Year crore units 688.755 688.755 688.755 688.755 688.755 Cost Rak(Wh 3.519009 3.685627 3.825817 4.081531	uxiliary Consumption	%8	8%	*	Rox	χος.	┸	
VIC Cost RskVVh 3.519009 3.695627 3.82317 4.081531	sle Per Year crore units	688 755	888 755	ARR 755	CAR 755	200 7CE		
Scount rate 9.35 % 1.0835 1.0835 1.0835 1.0835 Scount rate 9.35 % 1.0835 1.0835 1.0835 1.0835 Scount factor 5.484592 5.875521 6.534232 7.145182 7.88510 Reculting factor 0.482967 0.618491 0.58424 0.571228 0.571228 Velizacidificition factor 0.182997 0.167349 0.15304 0.139954 0.139954 Scount Rate 1.0835 1.0835 1.0835 1.0835 1.0835	nit Cost Rs/kWh	0000	3 805.827	2 002017	3,00	1000,133	⊥.	- 11
Scount factor 5.48482 5.975621 6.54222 7.145182 7.5520m/ac per unit cost 0.643867 0.187621 0.54222 7.145187 7.14518 7.145187 7.145187 7.145187 7.14518 7.145187 7.145	scount rate 9.35 %	1 0035	1 0035	4 7095	1,000	1007	4.51335	71.48052
Scounted per unit cost	scount factor	5 ABASON	5 075574	00000	0000	0280	1.0835	
Company Comp	Scoundard ner unit west	3.404302	1700/8'0	0.034232	7.145182	7.813257	8.543797	- 1
Verification and Automatic Action (V. 1978)	velizios fenor	1000	0 0	0.594242	0.5/1228	0.549344	0.528518	- 1
scount Rate 1.0835 1.0835 1.0835 1.0835	A STATE OF THE PARTY OF THE PAR	_	U.10/349	0.15304	0.139954	0.127988	0.117044	10.44338
1.0835 1.0835 1.0835 1.0835			1					
CCED': CCED': CCED':	Scount Rate	1 0035	1,002	2000	4 0005	1000		
SECURITING PARTIES	scounting Factor	200	0000	2007	CESO.	1.0835	1,0835	
Discounted Total Cost	Counted Total Cost	700 600	1000	28187	/813/20/	343797	9.342642	
405.0107 334.2911 359.7955 3.	valities feature at 0 of 9	403.01U/	288.0436	374.2311	359,7955	346.0112	332,8938	16204.73
0.104/07 0.104/07 0.104/07 0.104/07 0.104/07 0		70/45	0.104707	0.104707	0.104707	0 104707	0.104707	
VBIZEG COST 1696.757 1696.757 1696.757 1696.757 1696.757 16		1000	4000 707	-				
1 120,000,101 1000,101 1000,101					1000			