

**MADHYA PRADESH ELECTRICITY REGULATORY
COMMISSION**

"Metro Plaza", Bittan Market , Bhopal - 462 016



Petition No. 38 of 2008

PRESENT:

Dr. J. L. Bose, Chairman

K. K. Garg, Member

C.S. Sharma, Member

IN THE MATTER OF:

In the matter of review of the Commission's Order dated 18th January, 2008 on the provisional approval of generation tariff of MP's 57 % share of power in Sardar Sarovar Project (6x200+5x50 MW) under Section 62 of Electricity Act 2003 and clause 40 of MPERC (Conduct of Business) Regulation 2004.

NVDA (Petitioner) represented among others by -

1. Shri Neeraj Vyas (E. E.)

ORDER

Petition No. 38 of 2008

(Passed on this 4th Day of March, 2009)

Narmada Valley Development Authority, Bhopal - Petitioner

MP State Electricity Board, Jabalpur and

MP Power Trading Company Limited, Jabalpur - Respondent

1. This order relates to the Petition number 38 of 2008 filed by the Narmada Valley Development Authority (NVDA) for review of Commission's Order dated 18.01.08 on provisional approval of generation tariff of MP's 57 % share of power in Sardar Sarovar Project (6x200+5x50 MW) under Section 62 of Electricity Act 2003 and clause 40 of MPERC (Conduct of Business) Regulation 2004.
2. The Madhya Pradesh Electricity Regulatory Commission (hereinafter called "the Commission" or "MPERC") having gone through the review Petition submitted by the Narmada Valley Development Authority (hereinafter called "the Petitioner" or "NVDA") for review of the order passed by the Commission determining generation tariff for 57 % share of Madhya Pradesh in Sardar Sarovar Project (6x200+5x50 MW) and having heard the Petitioner admitted the Petition on 9th July 2008.
3. The Commission conducted hearings in the matter on 16th September 2008 and on 4th November 2008 to hear the Petitioner and the Respondent namely M. P. power trading Company limited (hereinafter referred to as Tradeco or the Respondent).
4. The Petitioner in his application dated 22.5.2008 prayed to the commission to approve that the energy generated after Commercial Operation Date (COD) of individual unit be treated as firm energy and the design energy at various reservoir levels be considered based on the capacity curve of the dam. The Petitioner also prayed that the Annual Fixed Charges (AFC) may be allowed on COD of individual unit in proportion of P1/P, where P1 is peak power available as on COD and P is maximum peaking power available on completion of Project i.e. installed capacity. The Petitioner further prayed that till the order of the Commission on the review Petition, Petitioner may be allowed to raise the bill to respondent as per previous rate allowed by the Commission.

5. The respondent filed an affidavit seeking dismissal of the Petition as the prayed revision was not supported by authentic documents and the unit wise cumulative cost was not submitted by the Petitioner. The respondent also submitted that the actual expenditure duly certified by auditors has still not been submitted by the Petitioner
6. The Commission having considered the affidavits filed by the Petitioner and respondent and having heard both the parties allows the AFC to be recovered from the date of COD of individual units and allows the Design energy to that extent for the period from 16th August 2004 to 31st March 2005 in FY 2005-06 and FY 2006-07 accordingly. Since the Petitioner could not establish that the reasons for not raising the height of the dam upto FRL were beyond the control of the Petitioner, the Commission does not allow the proposed design energy at the reduced reservoir level. The provisional Annual Fixed Charge since the Commercial Operational Date (COD) of each individual units of CHPH and RBPH as approved by the Commission are attached to this order in detailed order.
7. The Petitioner must take steps to implement the Order after giving seven (7) days' public notice in accordance with clause 1.30 of MPERC (Details to be furnished and fee payable by licensee or generating company for determination of tariff and manner of making application) Regulations, 2004 and raise its bills for energy supplied to the MP Power Trading Company Limited accordingly.
8. Ordered as above read with attached detailed reasons and grounds,

(C. S. Sharma)
Member (Economics)

(K. K. Garg)
Member (Engineering.)

(Dr. J. L. Bose)
Chairman

Date: March 4, 2009
Place: Bhopal

TABLE OF CONTENTS

A1: BACKGROUND OF THE REVIEW PETITION FILED BY NVDA:	2
COMMISSION'S ORDER DATED 18 JANUARY, 2008	
ISSUES IN THE SUBJECT PETITION-38 OF 2008	3
A2: <u>COMMISSION'S ANALYSIS</u>	5

LIST OF TABLES

TABLE 1 (SUMMARY OF AFC DETERMINATION AS MADE IN 18.01.08 ORDER)	2
TABLE 2 RESERVOIR CAPACITY AGAINST RESERVOIR LEVEL	4
TABLE 3 (COD AS CLAIMED IN INITIAL PETITION)	5
TABLE 4 (DESIGN ENERGY ALLOWED)	8
TABLE 5 (FIXED CHARGE ALLOWED).....	8

A1: BACKGROUND OF THE REVIEW PETITION FILED BY NVDA:

1.1. Narmada Valley Development Authority (NVDA) filed a review Petition before the Commission on 22.05.2008. The Petitioner, in the said Petition prayed to the Commission to approve that:

1.1.1. Energy generated after COD of individual unit be treated as firm energy.

1.1.2 Design energy at various reservoir levels be considered based on the capacity curve of the dam.

1.1.3 AFC may be allowed on COD of individual unit in proportion of P1/P, where P1 is peak power available as on COD and P is maximum peaking power available on completion of project i.e. installed capacity.

1.1.4 The Petitioner may be allowed to raise the bill to respondent as per previous rate allowed by the Commission till the order of Hon'ble Commission on reviewed Petition.

1.2 The commission in its earlier order dated 18.01.08 had determined the generation tariff (provisional) of MP's 57% share of power in Sardar Sarovar Project (6x200 + 5x50 MW). Some salient points of the Commission's Order dated 18th January, 2008 are reproduced below:-

- (i) *“The provisional generation tariff determined by the Commission will be deemed effective w.e.f. Aug-04 i.e. the date when the project started its commercial operation and started feeding the electricity into MP system. The order shall be effective after giving 7 days public notice in accordance with clause 1.30 of MPERC (details to be furnished and fee payable by licensee or generating company for determination of tariff and manner of making application) Regulation 2004.*
- (ii) *The provisional generation tariff of MP's share of power from Sardar Sarovar Project determined by the Commission is as given in the table below:*

Table 1 (Summary of AFC Determination as made in 18.01.08 order)

Computation of Provisional Annual Capacity (Fixed) Charges for Generation of SSP				
SI. No.	Particulars (MP Share Only)			Unit
1	Installed Capacity	57% of 1450 MW	826.50	MW
2	Energy Generation (Firm Power)	Design Energy	2193.36	MUs
3	Capital Cost	Undisputed	2065.07	Rs. Crore
4	Normative Loan	70%	1445.55	Rs. Crore
5	Normative Equity	30%	619.52	Rs. Crore
6	Auxiliary Consumption	0.50%	10.97	MUs
7	Transformation Losses	0.50%	10.97	MUs
8	Energy Available		2171.43	MUs
9	Working Capital			
(i)	O&M	One Month	2.58	Rs. Crore
(ii)	Receivable	2 Months	48.29	Rs. Crore

(iii)	Spares	1%	20.65	Rs. Crore
	Working Capital requirement		71.53	Rs. Crore
10	Cost Computation			
(i)	Interest on Loan	7.6742%	110.93	Rs. Crore
(ii)	Depreciation	2.57%	53.07	Rs. Crore
(iii)	O&M	1.50%	30.98	Rs. Crore
(iv)	Return On Equity	14%	86.73	Rs. Crore
(v)	Interest on Working Capital	11.25%	8.05	Rs. Crore
11	Annual Capacity Fixed Charges)		289.76	Rs. Crore

- (iii) *The provisional annual capacity (fixed) charges determined by the commission is of the amount of Rs. 289.76 Cr. The Commission allowed the recovery to the extent of 95% of full provisional annual capacity charges.*
- (iv) *The normative capacity indices of the project for recovery of the capacity charges shall be as defined in MPERC (Terms and Conditions for determination of Generation Tariff) Regulation 2005. The recovery of the capacity charges, primary and secondary energy charges and incentive will be done in accordance with the relevant sections of the regulation. These charges shall be payable by beneficiaries.*
- (v) *The unit wise break up of the capital cost as on date of commercial operation of individual units had not been filed by the Petitioner and the different units have been commissioned between 16.08.2004 to 12.11.2006. In view of this it was not possible for the Commission to determine the generation tariff at different intervals on the basis of commissioning of the units. As the project had achieved full commissioning and operation on 12.11.06, the provisional generation tariff determined by the Commission shall be applicable from 12.11.06 onwards. The provisional annual capacity charges shall be prorated accordingly for FY 2006-07. Any power if generated and sent to grid prior to 12.11.06 shall be provisionally treated as infirm power till Petitioners files the Petition for determination of final tariff. The energy corresponding to infirm power will be charged at the primary energy rate as defined in the Commission's regulations, i.e. at the lowest variable charges of the central sector thermal power generating station in the western region at that time.*
- (vi) *The ED on the auxiliary consumption and other taxes including cess etc., if any, shall be recoverable as per actual."*

Issues in the subject Petition-38 of 2008

1.3 The Petitioner has submitted the subject Petition to review the order dated 18.01.08 issued by the Commission. The Petitioner submitted the following facts in support of the review Petition:-

- (i) That the Commission while determining the Annual capacity fixed charges (AFC) considered undisputed share cost (Rs. 2065.07 Crores) of MP for

actual expenditure of SSP as on 31.03.07 where the dam height was raised up to 121.92 meter against FRL 138.68 meter. The firm energy 2193.36 MU available at FRL i.e 138.68 mtr. has been considered by the Commission for recovery to the extent of 95% of full provisional annual capacity charges. It is therefore submitted by the Petitioner to consider the recovery of provisional annual capacity charges as determined by the Commission with firm energy available at the dam height achieved as on 31.03.07 i.e. 121.92 mtr.

- (ii) That the details of firm energy available at dam height 121.92 mtr are not available. Firm energy at reduced height i.e. 121.92 mtr can not be same as firm energy at FRL i.e. 138.68 mtr. In absence of firm energy data at various reservoir levels, it may be fairly assumed that firm energy will be reduced by energy equivalent to reduction in live storage (from 5766.44 MCM at FRL to 1565.84 MCM at 121.92 mtr). Reduction in live storage from FRL to 121.92 mtr (operating reservoir level) is approx 4200 MCM, this is equivalent to energy loss of approx 1099 MU. Therefore firm energy at dam height 121.92 mtr works out to 1567 MU $[0.57 \times (3848 - 1099)]$. The quantities of available water at FRL and 121.92 mtr level have been taken from the area capacity table for the Sardar Sarovar dam submitted by the Petitioner is as follows

Table 2 Reservoir capacity against reservoir level

	Reservoir Level in Meter	Reservoir Capacity in MCM (Million Cubic Meter)	Reservoir Capacity in MAF (Million Acre Ft.)
MDDL	110.64	3700	2.999
	120.00	4918	3.987
Crest Level	121.92	5000	
FRL	138.68	9480	7.668
MWL	140.21	10070	8.163

Note: Live storage 5760 MCM and Dead storage 3700 MCM

- (iii) That in view of above AFC, determined by the Commission on the undisputed share cost (Rs. 2065.07 Crores) of MP for actual expenditure of SSP as on 31.03.07, may be allowed with the firm energy as 1567 MU.

- 1.4 It is submitted by the Petitioner to consider the COD of individual units separately and AFC may be allowed w.e.f. from COD of the Units. It is requested by the Petitioner that, power generated prior to COD be treated as infirm power. That the unit wise details, as provided by SSNNL, of COD and infirm energy generation of CHPH (Canal Head Power House) and RBPH (River Bed Power House) injected to grid is given below :-

Table 3 (COD as Claimed in initial Petition)

Unit No	RBPH	Infirm Energy	CHPH
	COD		COD
1	12.02.05	20.65	04-10-2004
2	11.06.05	21.51	16-08-2004
3	4.09.05	12.62	31-08-2004
4	27.10.05	23.90	05-09-2004
5	09.11.06	13.45	17-12-2004
6	25.06.05	13.56	

- 1.5 The Petitioner has requested that, pending detail of unit wise expenditure capitalized as on COD of Units, the AFC as on COD of individual units may be determined as submitted in original Petition i.e. by reducing AFC, allowed by the Commission, to a ratio of available capacity as on COD (P1 in MW) of individual units and total capacity of the project (P in MW). The firm energy as on COD of individual Units may be assumed as equal to firm energy of project multiplied by a ratio of P1/P.
- 1.6 The firm energy rate on AFC determined by the Commission and allowed for firm energy 2193.36 MU for completed project works out to Rs. 1.32 per unit (approx.) whereas it will be Rs. 1.85 per unit (approx) with the firm energy 1567 MU available at level of 121.92 mtr..

A2: COMMISSION'S ANALYSIS

- 2.1 The Commission held a motion hearing in the matter on 9th July'08 and admitted the review Petition of NVDA for review of Commission's impugned Order dated 18th January 2008, on the following grounds:
- a. Recovery of Fixed Charge (FC) on the basis of design energy corresponding to the Dam height of 121.92 meters.
 - b. Treating energy generated by individual unit as firm energy from the COD of that unit and determination of FC accordingly.
- 2.2 The Petitioner made a written submission before the Commission on 3rd September, 2008 enclosing a copy of Sardar Sarovar Narmada Nigam Ltd. (SSNNL) letter dated 12th August'08 and the calculation sheet for FC and firm energy on the basis of COD of individual units.
- 2.3 The respondent had filed on an affidavit dated 9th September 2008 requesting that the review Petition filed by NVDA may be dismissed and the provisional tariff determined by the Hon'ble Commission vide Order dated 18th January'08 may be reconfirmed on the following grounds :-

- (i) The Petitioner has not submitted any authentic documents to justify the revised firm energy. The revised design energy based on the present level of reservoir and 90% dependable year may be considered on the basis of project report from Central Electricity Authority (CEA)/Central Water Commission (CWC) or as decided by the Commission.
 - (ii) As per MPERC Regulations, the COD for the purpose of tariff determination is required to be reckoned as 12/11/2006 only. The energy generated prior to this date is required to be treated as infirm power.
 - (iii) The Petitioner has not submitted the audited actual expenditure duly certified by the statutory auditors for each unit as on COD.
 - (iv) The presumption that firm energy of 1567 MUs will be available at the dam level of 121.92 mtrs. is yet to be ascertained by the competent authority.
 - (v) There is no case for the Petitioner to raise the bill at Rs.2/kwh as the Commission has already determined the provisional tariff applicable with effect from 12/11/2006.
 - (vi) The design energy being an important component of the tariff, needs to be reviewed on the basis of Techno Economic Clearance (TEC) by the CEA and the concurrence by CEA.
 - (vii) The unit-wise cumulative capital cost as on COD has not been submitted as per the Regulations.
- 2.4 During the course of hearing on 16th September 2008, the Petitioner stated that the calculations based on data received from SSNNL have been submitted by NVDA. Since the Petitioner still does not have the details of audited expenditure, the FC as shown in the calculation sheet based on the ratio of capacity available and the installed capacity may be allowed to the Petitioner.
- 2.5 The respondent during the course of hearing on 16th September, 2008 had objected to NVDA revising the design energy time and again and stated that any revision should not be accepted till it is certified by CEA. During the course of same proceedings, NVDA claimed that the dam height being less than FRL, the design energy will be accordingly reduced. However, the respondent drew the attention of the Commission to the fact that the project even at the reduced Dam height is generating energy to the extent of design energy at FRL and the claim of Petitioner may not be accepted in this regard.
- 2.6 The Commission in the hearing held on dated 16.9. 2008 observed that the Petitioner should submit the specific reasons for not raising the height up to FRL and whether the respondent should pay revised charges for such reasons. The Commission however observed that Petitioner's demand to consider unit-wise COD appears to be reasonable but before it is considered the Petitioner shall have to submit the unit-wise details of generation and should segregate infirm power and firm power supplied from each unit.

- 2.7 The Petitioner stated during the hearing held on dated 4.11. 2008 that CERC has also considered the issue of not raising the dam height for Hydel projects without asking for any supporting documents in that regard. The Petitioner also stated that regarding the design energy and other information, the Petitioner is submitting documents available from SSNNL. The respondent however, mentioned that SSNNL is an interested party and is not an independent party. Therefore, the data/information received from SSNNL on design energy should not be accepted.
- 2.8 The Commission heard the Petitioner and Respondents on 4th November 2008. Petitioner submitted the affidavit mentioning the CODs of different units.
- 2.9 As per the latest submission of relevant data, the Petitioner could not satisfy the Commission that the reasons for not achieving the FRL were beyond its control. The respondent opined that the non-achievement of FRL was due to the negligence of SSNNL and the Petitioner and FRL could not be achieved due to lack of timely rehabilitation initiatives. Hence, downward correction of design energy may not be allowed against this Petition. The Commission agreed to the argument put forth by the respondent and decided not to allow design energy at the Reservoir level. However, the commission accepted the staggered COD of different units and allowed NVDA to claim the Fixed Charges (FC) considering individual COD of different Units.
- 2.10 In the above subject matter, during the course of hearing on 4th November 2008, the Respondent objected that the Petitioner is mentioning different dates of COD in different submissions. The Commission noted the objection of the respondent and directed that Petitioner NVDA to file the actual Dates of Commercial operation of different units on an affidavit in super session of the earlier affidavit.
- 2.11 Accordingly Petitioner has submitted an affidavit dated 29th November 2008 stating COD of each unit of SSP complex in super session of earlier submissions is as follows:-

Unit No	CHPH	RBPH
1	04 Oct 2004	14 Feb 2005
2	16 Aug 2004	14 Jun 2005
3	01 Sep 2004	06 Sep 2005
4	03 Sep 2004	30 Oct 2005
5	15 Dec 2004	12 Nov 2006
6	--	27 Jun 2006

- 2.12 MP Tradeco vide letter no.05-01/GG/3129 dated 31.12.2008 submitted that the CODs of RBPH Unit no 1, 2 & 4 are not matching with the information available with the MP Load despatch Centre. However, the respondent failed to submit any document of MPSLDC in support of its claim.

- 2.13 The Commission observes that the Respondent could not produce any supporting document or any further affidavit even after a month of submission of its letter dated 31.12. 2008. The commission therefore considers that the affidavit submitted by the Petitioner regarding COD of individual units is correct and in case the information filed on affidavit is proven to be incorrect at a later stage, appropriate proceedings would be initiated against the Petitioner. The commission accepts the CODs submitted by NVDA and determined the FC as mentioned in the following paragraphs.
- 2.14 The Commission after considering the facts and arguments, finally amends its order dated 18.01.2008 to the extent below :-
- a. The commission allows the recovery of design energy from 16th August 2004 to 31st March 2007 and provisional FC as following for the period mentioned against each unit in Table 4 and Table 5. The provisional FC is determined based on the ratio of installed capacity of unit (s), which achieved COD to the total installed capacity i.e. 1450 MW.
 - b. During the period from 16th August 2004 to 31st March 2008, energy generated from the project was 5728.370 MU, against Design Energy of 5524.684 MU. However year on year basis, the generated energy is less than design energy during FY 2004-05 and 2005-06. Since the tariff determined is provisional and the total energy generated from the project upto 31st March 2008 exceeds design energy, the commission has not considered any relief to the Petitioner towards full recovery of FC in this review petition. For period upto FY 2007-08, this provisional order shall continue till final tariff is determined. However for period after FY 2007-08 and before determination of final tariff, if for reasons beyond control of the petitioner, they are unable to recover full fixed charges, they may approach the Commission for appropriate relief.

Table 4 (Design Energy Allowed)

From	To	Design Energy
16-Aug-04	31-Mar-05	229.76
01-Apr-05	31- Mar-06	1208.08
01-Apr-06	31-Mar-07	1915.41
01-Apr-07	31-Mar-08	2171.43

Table 5 (Fixed Charge Allowed)

CHPH / RBPH	Unit wise COD		Capacity	Calculation of Fixed Cost		P1/P	Fixed Charge (Rs. in Crore)
	Unit No	COD		From	To		
CHPH	2	16-Aug-04	50	16-Aug-04	31-Aug-04	0.034	0.438
	3	01-Sep-04	100	01-Sep-04	2-Sep-04	0.069	0.109
	4	03-Sep-04	150	03-Sep-04	3-Oct-04	0.103	2.546
	1	04-Oct-04	200	04-Oct-04	14-Dec-04	0.138	7.884

CHPH / RBPH	Unit wise COD		Capacity	Calculation of Fixed Cost		P1/P	Fixed Charge (Rs. in Crore)
	Unit No	COD		From	To		
CHPH	5	15-Dec-04	250	15-Dec-04	13-Feb-05	0.172	8.349
RBPH	1	14-Feb-05	450	14-Feb-05	31-Mar-05	0.310	11.333
			450	01-Apr-05	13-Jun-05	0.310	18.231
	2	14-Jun-05	650	14-Jun-05	5-Sep-05	0.448	29.893
	3	06-Sep-05	850	06-Sep-05	29-Oct-05	0.586	25.130
	4	30-Oct-05	1050	30-Oct-05	31-Mar-06	0.724	87.955
			1050	01-Apr-06	26-Jun-06	0.724	50.013
	6	27-Jun-06	1250	27-Jun-06	11-Nov-06	0.862	94.442
	5	12-Nov-06	1450	12-Nov-06	31-Mar-07	1.000	111.141

2.15 This order disposes off this Petition.
