# CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI 

Petition No. 3/GT/2013

## Coram:

Shri Gireesh B. Pradhan, Chairperson
Shri M. Deena Dayalan, Member
Shri A.K.Singhal, Member

Date of Hearing: 15.04.2014
Date of Order: 23.01.2015

## In the matter of

Approval of generation tariff of Chutak Hydroelectric Project (4 X 11 MW) of NHPC for the period from 1.9.2011 to 31.3.2014

## And

In the matter of
NHPC Ltd
NHPC Office Complex,
Sector-33
Faridabad-121003
Haryana ...Petitioner
Vs
The Principal Secretary
Power Development Department
New Secretariat
Jammu (J\&K)

## Parties present:

For Petitioner: Shri J.K Jha, NHPC
Shri S.K Meena, NHPC
For Respondent: Shri R.B.Sharma, Advocate, BRPL

## ORDER

The petitioner, NHPC Ltd has filed this petition for approval of generation tariff of Chutak Hydroelectric Project ( $4 \times 11$ MW) ('the generating station") for the period from 1.9.2011 (expected date of commercial operation) to 31.3 .2014 based on the Central

Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, (hereinafter referred to as "the 2009 Tariff Regulations").
2. The generating station situated in the State of $J \& K$, has been designed as a purely run of the river scheme and comprises of four units with a capacity of 11 MW each. The project has been sanctioned by the Government of India during August, 2006 at a cost of $₹ 621.26$ crore (including IDC and FC of $₹ 3.69$ crore at December, 2005 Price Level). The petitioner has entered into a Power Purchase Agreement (PPA) with the Government of J\&K on 26.10.2005 and power is allocated from the generating station as per Ministry of Power, Government of India letter dated 2.9.2011. The power generated from the generating station was initially planned to be evacuated at 33 kV level through 220/33 kV network comprising of 220 kV Alistang(Srinagar)-Leh transmission line having 4 nos. 220/33 kV sub-stations, namely Drass, Kargil, Khalsti and Leh respectively. Subsequently, CEA decided that 66 kV network would be more suitable for evacuation of power from the generating station and for distribution in Kargil area and accordingly evacuation system was planned at 66 kV for the generating station. The evacuation system ( $66 / 11 \mathrm{kV}$ ) beyond the switchyard of the generating station was to be constructed by the respondent which was further to be connected to Gramthang, Kargil, Mulbek, Sankoo and Khangral sub-stations via the 66 kV transmission line.
3. Units I to III of the generating station were declared under commercial operation on 29.11.2012. During the pendency of the petition, the petitioner had filed interlocutory application (I.A.No.15/2012) for recovery of annual fixed charges based on actual energy generated from the generating station as per available load and for relaxation of operational/technical norms in terms of Clause-4 of Part-7 (Miscellaneous) of the Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2010 under

Regulation 44 of 2009 Tariff Regulations. The Commission after considering the submissions of the parties disposed of the said application by its order dated 31.12.2012.
4. Subsequently, the instant petition was heard on 7.2.2013 and the Commission reserved its order on the petition. However, the petitioner by its affidavit dated 14.2.2013 submitted that Unit-IV of the generating station was declared under commercial operation on 1.2.2013 upon successful trial run and demonstration of peaking capability. The petitioner also submitted that M/s Tata Consulting Engineers Ltd, Bengaluru had been appointed as the Designated Independent Agency (DIA) on 11.1.2013 for vetting of capital cost of the generating station in terms of the guidelines dated 2.8.2010 issued by the Commission as regards vetting of the capital cost of hydro electric projects by Designated Independent Agencies or Institutions or Experts and the same would be submitted as and when finalized. In the above background, the petitioner prayed for grant of provisional tariff of the generating station based on the capital cost as on the actual/expected date of commercial operation of the generating station submitted by the petitioner. Considering the fact that the Revised Cost Estimate (RCE) as approved by the Central Government and the Appraisal report on the capital cost as vetted by the DIA were yet to be submitted by the petitioner, the Commission by its order dated 1.4 .2013 granted provisional tariff of the generating station in terms of Regulation 5(4) of the 2009 Tariff Regulations, subject to adjustment after determination of final tariff of the generating station. By the same order, the Commission directed the petitioner to revise the figures in the petition based on RCE approved by the Ministry of Power and the appraisal report on the capital cost as vetted by the DIA in respect of the generating station.
5. M/s Tata Consulting Engineers Ltd, the DIA appointed for vetting of capital cost of the generating station had submitted its appraisal report on the capital cost on 25.10.2013. Thereafter, the matter was relisted and heard on 15.4.2014 and the Commission reserved
its orders. Since the DIA report on capital cost was not served on the respondent, the Commission by letter dated 15.7.2014 directed the petitioner to serve copy of the report on the respondent and also directed the parties to complete pleadings in the petition.
6. In terms of the directions contained in Commission's order dated 1.4.2013, the petitioner by affidavit dated 13.8.2014 has filed amended petition for determination of tariff of the generating station from 29.11.2012 to 31.3.2014 based on the cost vetted by DIA as on 1.2.2013 and as per RCE approved by the Standing Committee, after serving copy on the respondent. Considering the fact that the amended petition (affidavit dated 13.8.2014) has been filed after orders were reserved in the petition, the same has not been considered in this order. However, the said affidavit would be taken into consideration at the time of truing-up of tariff of the generating station for the period 2012-14 in terms of Regulation 6(1) of the 2009 Tariff Regulations. Accordingly, we proceed to examine the submissions of the parties for determination of tariff of the generating station as discussed in the subsequent paragraphs.
7. The petitioner by affidavits dated 30.8.2011 and 21.11.2011 had claimed the annual fixed charges of the generating station based on the anticipated date of commercial operation of the generating station (1.9.2011) as under:

|  | $\mathbf{2 0 1 1 - 1 2}$ | $\mathbf{2 0 1 2 - 1 3}$ | (₹ in lakh) |
| :--- | ---: | ---: | ---: |
|  | 2582.41 | 4586.26 | 4720.36 |
| Depreciation | 2055.55 | 3327.05 | 3013.20 |
| Interest on Loan | 2708.46 | 4810.11 | 4950.76 |
| Return on Equity | 199.33 | 349.72 | 354.41 |
| Interest on Working Capital | 1097.52 | 1993.75 | 2107.79 |
| O \& M Expenses | $\mathbf{8 6 4 3 . 2 7}$ | $\mathbf{1 5 0 6 6 . 8 9}$ | $\mathbf{1 5 1 4 6 . 5 2}$ |
| Total |  |  |  |

## Capital Cost

8. The petitioner has submitted that the project has been sanctioned by the Government of India (Gol) in August, 2006 at an estimated cost of $₹ 621.26$ crore
(including IDC \& FC of ₹3.69 crore at December, 2005 price level) with the completion period of 54 months from the date of its sanction by the Gol. The petitioner has also submitted that the project has been funded through equity of $₹ 186.38$ crore and subordinate debt of ₹ 364 crore provided by the Gol at an interest rate of $2.5 \%$ per annum with repayment of principal amount to start from the $6^{\text {th }}$ year after commissioning and to continue till the $29^{\text {th }}$ year. It has further been submitted that there was no interest on subordinate debt during the construction period and the interest accrued shall be paid by the petitioner annually after commissioning of the project. It has been clarified that the purpose of providing the subordinate loan was to reduce the per MW cost of the project.
9. The petitioner vide affidavit dated 30.8.2011 has submitted that the capital expenditure actually incurred on the project upto 31.3 .2011 is $₹ 629.51$ crore (excluding depreciation). It has been submitted that the anticipated total capital cost of the project as on COD (1.9.2011) is ₹914.14 crore (after adjusting depreciation of ₹3.17 crore pertaining to construction period) and the actual cost of the project would be known after commercial operation of the project and closure of accounts thereafter. The petitioner has further submitted that the RCE for ₹913.25 crore (including IDC \& FC of ₹22.69 crore) estimated at July, 2010 Price Level has been submitted for approval of the Ministry of Power, Government of India on 19.11.2010. The petitioner has stated that CEA has vetted the RCE of the project for $₹ 893.76$ crore and the approval of Ministry of Power, GOI is still awaited.

## Vetting of capital cost by DIA

10. As stated above, the petitioner had appointed M/s Tata Consulting Engineers Ltd., Bengaluru, as DIA for vetting of capital cost of the generating station and the DIA had submitted the appraisal report on capital cost to the Commission on 25.10.2013. The
findings and recommendations of the DIA in the said report is discussed in the subsequent paragraphs.

## Appraisal of capital cost as per DPR

11. The appraisal and recommendation on capital cost as per DPR and the conclusions arrived at by DIA after review of DPR is mainly as under:
(a) The DPR is generally in order and has been prepared in sufficient detail as per the guidelines of CEA and CWC. The installed capacity and annual energy for this project are 44 MW and 213 MUs respectively.
(b) The project capital cost as initially cleared by CEA is ₹655.65 crore (December, 2003, price level) including Interest During Construction, which was subsequently approved by CCEA with a minor revision to $₹ 621.26$ crore (December, 2005 price level). The project cost has been estimated after detailed studies such as construction \& equipment planning, rate analysis etc., and is generally in order.
(c) The construction schedule of about $4^{1 / 2}$ year i.e., 54 months which includes infrastructure such as roads, is comparable to similar projects in Himalayan region and has been worked out on the basis of construction equipment and planning.
(d) CEA further vetted the project cost to $₹ 893.76$ crore (July 2010 price level). Thus, there is an increase of $₹ 272.50$ crore ( $44 \%$ ) over the cost of $₹ 621.26$ crore (December 2005 price level) approved by CCEA. The main contributing factor for the upward revision is the increase in the cost of E\&M works by about ₹200 crore.

## Time Overrun

11.1 As per sanction order of CCEA (conveyed on 24.8.2006), the project was scheduled to be commissioned by 23.2.2011 with a completion period of 54 months. The actual COD of the project is 1.2.2013 and hence there is a total time overrun of 23 months with respect to the scheduled commissioning (February, 2011). However, as the first trial run with load of one unit was completed in November, 2011 (first week), there is an actual time overrun of only 11 months, out of which 8 months is attributable to civil disturbances and severe winter during 2008-09. All other delays are due to non-availability of load for power evacuation. It is noted that there is no connectivity to the State or Regional grid and the grid connectivity is presently up to the substation at Kargil belonging to Power Development Department (PDD) of J\&K State. The power from the substation is supplied
to the local (Ladakh) region and the current peak load is about 8 MW , which is far below the plant capacity of 44 MW of the generating station. Therefore, it has not been possible to operate the power plant at full load since November, 2011. The petitioner has attributed the following reasons for time overrun of 23 months:
(i) Erection of EOT crane

- 8 months
(ii) Unit -I: First run with load
- 2 months
(iii) Units-II to IV: Commissioning (COD)
Total
-14 months
- 23 months

The delay of 8 months in the erection of EOT crane is attributable to the agitation by Amarnath Sangharsh Samiti (June, 2008 to September, 2008) followed by the usually severe winter during 2008-09 (December, 2008 to March, 2009). The balance of 15 months delay in the commissioning of all the four units is due to non availability of sufficient load in the distribution system. It may not be out of place to mention that the project is the first big industrial project to be developed in the Ladakh region under very treacherous terrain and hostile climatic conditions with poor logistics.

## Appraisal of capital cost as on COD of generating station

11.2 The project was sanctioned by CCEA in August, 2006 at the cost of $₹ 621.26$ crore at December, 2005 price level and the cost incurred up to COD (1.2.2013) is ₹833.48 crore. The abstract of RCE of the project as furnished by NHPC to the DIA is furnished in the Table-I below. CEA has vetted the RCE of ₹ 893.76 crore at July, 2010 price level and the same is yet to be approved by the Ministry of Power, Govt. of India. The summary of RCE of the generating station as furnished by NHPC to DIA is as under:

## Table-1

|  | Costs under Major Heads (₹ in crore) |  |  |  |
| :--- | :---: | :---: | :---: | :---: |
|  | Sanctioned <br> *at(acember 2005 <br> price level) | Revised | Increased/ <br> Decrease | Ranking |
| Direct Cost |  |  |  |  |
| I-Works |  |  |  |  |
| C-Civil Works | 96.25 | 159.18 | 62.93 | 3 |
| J-Civil Works of Power Plant | 284.50 | 274.91 | $(-) 9.59$ |  |
| K-Buildings | 22.74 | 4.89 | $(-) 17.85$ |  |
| R-Communication | 27.69 | 3.95 | $(-) 23.74$ |  |
| Others | 43.60 | 31.65 | $(-) 11.55$ |  |
| Sub Total of I-Works | 474.78 | 474.58 | $(-) 0.20$ |  |
| II- Establishment etc | 26.60 | 59.99 | 33.39 | 4 |
| Indirect Cost | 4.87 | 2.48 | $(-) 2.39$ |  |
| Total Civil Works | 506.25 | 537.06 | 30.81 |  |
| Electrical Works |  |  |  |  |
| E\&M | 106.50 | 196.13 | 89.63 |  |
| Establishment \& | 4.82 | 24.35 | 19.53 |  |
| Audit/Accounts |  |  |  |  |
| Total of Electrical Works | 111.32 | 220.48 | 109.16 | 1 |
| IDC \& FC | 3.69 | 75.94 | 72.25 | 2 |
| Total Cost | $\mathbf{6 2 1 . 2 6}$ | $\mathbf{8 3 3 . 4 8}$ | $\mathbf{2 1 2 . 2 2}$ |  |

## Review of Project cost

11.3 Based on the above, the project cost has been reviewed with reference to the cost sanctioned by CCEA in August 2006 as detailed under:
11.3.1 Contract Packages-The major works of the project namely, Civil, Hydro Mechanical and Electrical works were carried out by NHPC by awarding three main contract packages given below:
(i) LOT-I: Civil Works including items under C-Civil Works and J-Civil Works of Power Plant;
(ii) LOT-II: HM works, and
(iii) LOT-III: E\&M works.

These packages were awarded on $23^{\text {rd }}$ September, 2006, $28^{\text {th }}$ July, 2008 and $16^{\text {th }}$ August, 2007 to M/s HCC, M/s PES and M/s BHEL respectively.

### 11.3.2 Contract Values-A summary of contract values under the major capital heads

 viz., (i) C- Civil Works (ii) HM Works and (iii) E\&M Works are given in Table-2 under:Table-2

| SI. No. | Item | Costs under Major Heads |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | Sanctioned $^{*}$ | Contract Value | Variation |
| 1 | Civil (LOT-I) | 362.08 | $410.54 @$ | $48.46(13 \%)$ |
| 2 | HM (LOT-II) | 18.67 | ₹26.04+ $€ 3,23,400=$ <br> $₹ 28.18$ crore $\$$ | $9.51(51 \%)$ |
| 3 | E\&M (LOT-III) | 107.59 | $198.05^{*}$ | $90.46(84 \%)$ |
|  | Total | 488.34 | 636.77 | $148.42(30 \%)$ |

*December, 2005 price level, @=September, 2006 PL, $\$=$ July, 2008 PL (1 Euro= ₹ 66.11) ** August, 2007 PL

Table-2 indicates that the contract value of major works is ₹ 636.77 crore vis-a-vis the sanctioned CCEA cost of ₹ 488.34 crore. Thus, the contract value is actually higher than the CCEA sanctioned estimates by $₹ 148.43$ crore ( $30 \%$ ). The maximum variation in contract value vis-a-vis the sanctioned cost is for E\&M (LOT-III) which is ₹90.46 crore, followed by the contract value of C-Civil works (LOT-I) and HM works (LOT-II), having gone up by ₹ 48.46 crore and ₹ 9.51 crore respectively. The increase in above contract value is mainly attributable to reasons as under:
(a) Poor response of the bidders.
(b) Requirement of materials capable of withstanding high altitudes and subzero temperature.
(c) Higher electrical clearance for electrical equipment to take care of low air density.
(d) Supply of E\&M equipment in pieces to cater to transport limitations and their re-assembly at site
(e) Availability of approach road for a limited period of 4-6 months in a year,
(f) Less working season and other uncertainties associated with the project site.
(g) Another important reason is the revision in evacuation voltage from 33 kV to 66 kV resulting in scope changes in Generator Step-up transformers, switchyard equipment, XLPE cables, etc.

It is relevant to note that the E\&M package (LOT-III) has been awarded to M/s BHEL since no TG equipment manufacturers have bid for this assignment.

## Revised Project Cost

11.4 A summary of RCE of the project as furnished by NHPC to DIA is given in Table1. It is seen that the RCE of the project is $₹ 833.48$ crore (including IDC \& FC) as on COD of generating station, i.e.,1.2 2013. The cost sanctioned by CCEA is ₹621.26 crore at December, 2005 Price Level. Thus, there is a cost overrun of ₹ 212.22 crore.

## Cost Overrun

11.4.1 An abstract of cost under the major capital heads viz. (a) Direct Cost, (b) Indirect Cost, (c) Electrical works, and (d) IDC \& FC are given in Table-1 to identify the components requiring more detailed analysis of cost overrun. In this table, items with cost overrun exceeding ₹ 20.00 crore over the sanctioned cost are highlighted for further review and ranked in descending order. It is seen that the maximum cost overrun is $₹ 109.16$ crore under 'Electrical Works', which is followed by IDC \& FC for ₹ 72.25 crore, ₹ 62.93 crore under 'Civil works' and ₹ 33.39 crore under 'Establishment'. These variations have been discussed in detail in the following paragraphs:
(a) Electrical Works (₹109.16 crore): The electrical works comprising mainly turbine, synchronous generators and transformers has contributed to a cost overrun of ₹109.16 crore. The main reasons for cost overrun are as given below:
(i) Inadequate provision (₹68.51crore) and statutory reasons (₹10.12 crore) has contributed to the cost overrun amounting to ₹109.16 crore. As already mentioned, the increase in project cost is mainly attributable due to reasons such as poor response of the bidders, requirement of materials capable of withstanding high altitudes and sub-zero temperature, higher electrical clearance for electrical equipment to take care of low air density, supply of E\&M equipment in pieces to cater to transport limitations and their re-assembly at site. Another important reason is the revision in evacuation voltage from 33 kV to 66 kV , resulting in scope changes in Generator Step Up transformers, switchyard equipment, XLPE cables, etc. It is relevant to note that no manufacturer of TG equipment responded to the tender notification of E\&M package (LOT-III).

Therefore, BHEL was approached to take up this contract and hence was awarded to them.
(b) IDC and FC (₹72.25 crore) As referred in Table-1, Interest during construction (IDC) and Financing Charges (FC) is another head under which there is cost overrun of ₹72.25 crore. The large increase in IDC \& FC is mainly due to inadequate provision and the delay of 24 months in the commissioning of the power plant. A provision of ₹ 62.92 crore at December, 2003 price level for IDC was approved by CEA considering (i) the debt equity ratio of $70: 30$, (ii) interest rate of $9 \%$ on loan and (iii) project completion period of 4 years. However, the CCEA sanctioned the cost of ₹3.69 crore for IDC \& FC at December, 2005 PL which results in reduction of ₹59.23 over the CEA approved cost. The CCEA sanctioned cost was subject to the financing of ₹364 crore with a nominal interest rate of $4 \%$. Also, no interest was payable during construction period and interest which will be accrued is to be paid annually after commissioning of the project. Subsequently, there has been a change in the financing pattern which has resulted in enhanced IDC.
(c) Establishment ( $₹ 33.39$ crore)- Establishment, T\&P and Recoveries constitutes the third most head under which there is cost overrun amounting to $₹ 33.39$ crore. This increase can be mainly attributed to the delay of 24 months in the commissioning of the power plant and is due to disbursement of pay revision to the employees due to implementation of $6^{\text {th }}$ Pay Commission.
(d) C-Civil Works (₹62.93 crore)-Civil Works head is contributing to ₹ 62.93 crore of cost overrun. The main civil structures under this item head are diversion structure and barrage complex. The main reasons for revised cost under C-Civil Works are as under:
(i) Inadequate provision amounting to ₹ 43.93 crore is the major component due to additional concreting and reinforcement required during execution.
(ii) Price escalation of $₹ 14.72$ crore is mainly due to delay in the completion of the project, and
(iii) Statutory reasons such as change in duties and taxes like works contract tax and Central sales tax, amounting to ₹ 4.28 crore.

## Summary of Reasons for Cost Overrun

11.5 The summary of main reasons for total Cost overrun of ₹212 crore is shown in the Table-3, which is line with the guidelines of CWC for presenting cost variations. The major contributing factors for Cost overrun are listed below:
a) Inadequate provision accounts for cost overrun of ₹112 crore (53\%)
b) Interest During Construction (IDC) and Financing Charges (FC) with its share of ₹ 72 crore (34\%)
c) Establishment caused a huge cost overrun of ₹54 crore (25 \%).
d) Price Escalation has resulted in cost overrun ₹25 crore (12\%)
e) There is reduction in cost under the head J-Power Plant civil works of $₹ 65$ crore (-) $31 \%$.

## Table-3

|  | Electrical Works | C-Civil Works | Total |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Amount | \% |
| Price escalation | 9.90 | 14.72 | 24.62 | 12\% |
| Inadequate provisions | 68.51 | 43.93 | 112.44 | 53\% |
| Statutory reasons | 10.12 | 4.28 | 14.40 | 7\% |
| Reduction in cost under JPower Plant Civil Works \& OMiscellaneous | - | - | (-) 65.50 | (-)31\% |
| IDC \& FC | - | - | 72.25 | 34\% |
| Establishment | 20.63 | 33.39 | 54.02 | 25\% |
| Total |  |  | 212.21 | 100\% |

## Conclusions and Recommendations of DIA

11.6 The main conclusions after the review of the capital cost of the generating station
by the designated agency are given as under:
(a) The project cost of Chutak HEP including IDC sanctioned by CCEA in August 2006 is $₹ 621.26$ crore at December, 2005 price level. The construction of the project was started in September, 2006 and was scheduled to be commissioned in February, 2011, with an originally envisaged construction period of 54 months ( $4^{1 / 2}$ years). Subsequently, CEA has vetted the revised project cost of $₹ 893.76$ crore at July, 2010 price level which is essentially due to enhanced cost of E\&M equipment.
(b) The major works of the project namely, Civil, Hydro-mechanical and Electrical works were carried out by NHPC by awarding three main contract packages viz., LOT-I: Civil Works, LOT-II: HM Works and LOT-III: E\&M Works. The combined contract value of the above packages was ₹ 636.77 crore at the time of award of contract vis-a-vis the sanctioned CCEA cost of $₹ 488.34$ crore for the above mentioned major works. Thus, the contract value is actually higher than the CCEA sanctioned estimates by ₹148.42 crore (30\%) at around 2005 price level.
(c) The maximum variation in contract value vis-a-vis the sanctioned estimate is under E\&M (LOT-III), which is ₹ 90.46 crore. The increase in contract value is mainly due to remoteness of the location and inhospitable climate and terrain. In fact, no bidder responded to the tender notification for this contract and subsequently NHPC approached and awarded the contract to $\mathrm{M} / \mathrm{s}$ BHEL. The contract values of C-Civil works (LOT-I) and HM works (LOT-II) have gone up by ₹ 48.46 crore and ₹9.51 crore respectively due to poor response of the bidders.
(d) The revised completion cost of the generating station as on COD. i.e., $1^{\text {st }}$ February, 2013 is $₹ 833.48$ crore. Thus, there is a cost overrun of $₹ 212.21$ crore for this project.
(e) Table-3 above shows that IDC \& FC, Price escalation and Establishment together contribute to about ₹151 crore ( $71 \%$ ) of cost overrun, mainly attributable to the change in the financing pattern which has resulted in enhanced IDC and delay in commissioning of the project. There has been a cost escalation of ₹ 112.44 crore due to inadequate provision mainly in the E\&M works and additional civil works. However, the petitioner, after carrying out detailed studies during construction found it prudent to avoid de-silting chamber and flushing tunnel, resulting in saving of ₹ 65.50 crore. Thus, there is a net increase of only ₹ 47 crore due to inadequate provisions.
12. Accordingly, the DIA, based on the review of available data, has stated that the project cost of $₹ 833.47$ crore as on COD of the generating station appear reasonable, keeping in view of the cold desert conditions in the remote Ladakh region.

## Commission's Observations

13. The appraisal report and the recommendations therein made by the DIA as above have been examined and following are the observation/views of the Commission:
(i) The DIA has made a detailed analysis of the cost data under various heads in order to work out the overall completion cost and the cost overrun. The DIA has also made extensive study of the construction schedule as per DPR, actual time line for completion of various activities, reasons for delays on account of various factors such as delay in erection of EOT crane due to agitation of Amarnath Sangharsh Samiti, severe winter conditions at project site and more so due to nonavailability of load in the distribution network and the execution of 66 kV line for evacuation of power.
(ii) It is observed that the DIA has recommended the capital cost of $₹ 833.48$ crore as on COD of the generating station, although CEA has vetted the RCE at the cost of $₹ 893.76$ crore. However, the DIA report is silent on the gap of $₹ 60.28$ crore between the CEA appraised cost and the recommended capital cost of ₹833.48 crore. It is not clear whether the recommended capital cost of $₹ 833.48$ crore is the completion cost or expenditure incurred till COD of the generating station. It was the duty of the petitioner and the DIA to arrive at the completion cost and the variation analysis should have been made with respect to the completion cost. As such, in the absence of the clarity on these aspects, we consider the completion cost of the project as ₹833.48 crore for the purpose of tariff, subject to the petitioner submitting detailed clarification with regard to the completion cost of the project at the time of truing-up of tariff of the generating station in terms of Regulation 6(1) of the 2009 Tariff Regulations. It is noted from the details furnished by the petitioner that at no stage capital cost of the project has been approved by its Board. Therefore, the petitioner is directed to place on record the approval of the Board of Directors of the petitioner company for the RCE within next three months. The petitioner is also directed to ensure the submission of RCE approved by CCEA, GOI at the time of truing-up of tariff of the generating station in terms of Regulation 6 of the 2009 Tariff Regulations.
(iii) On the justification furnished by the petitioner towards implementation of the project with high cost, the Commission in order dated 31.12.2012 in I.A. No. 15/2012 had observed as under:


#### Abstract

"Techno Economic viability of the project has been assessed in detail during the PIB/CCEA stage through comparing the existing source of power supplies in the area from DC generation which was in the level of $₹ 10-15 / u n i t$. During the PIB meeting held on 8.6.2005, Secretary (Power) stated that Ladakh region does not have any significant generation capacity and relies mainly on DG sets. As a result, the development of the region is lagging. He informed that both these projects (Chutak H.E and Nimo Bazgo) have been envisaged taking into consideration the sensitivity of the region, the sentiments of the people as well as the technical requirements. He agreed that the projects are commercially unviable under the normal financial model. However, it would be improper to let the region suffer due to high cost of power. Subsidy in the form of grants/subordinate loan is therefore justified to promote economic development of the region. He further stated that there is a strong case for providing interest free subordinate debt for these hydro projects to make power affordable to the people of the region. Secretary (Power) also stated that alternative energy options are also likely to be even costlier. In pursuance to the observation of PIB, MOP provide ₹364 crore as subordinate debt to finance this project at an interest rate of $2.5 \%$ per annum with repayment of principal to start from 6th year after commissioning. Also, no interest is to be charged on this subordinate loan during construction. Accordingly, as per the sanction of the project by MOP, GOI, NHPC went ahead for implementation of the project."


(iv) As regards Time overrun of 23 months, the DIA has indicated that the delay of 8 months in the erection of EOT crane is attributable to the agitation of Amarnath Sangharsh Samiti followed by the usually severe winter of 2008-09. The balance period of 15 months delay in the commissioning of all the four units is due to the non availability of sufficient load in the distribution system. Further, DIA has also stated that the generating station is the first big industrial project to be developed in the Ladakh region under very treacherous terrain and hostile climatic conditions with poor logistics. Considering the submissions of the petitioner and the recommendations of the DIA, we are of the considered view that the Time overrun of 23 months in the completion of the project is for reasons beyond the control of the petitioner and the petitioner cannot be made attributable for the said delay. In this background, we allow the prayer of the petitioner and accordingly, condone the delay of 24 months in the completion of the project.

## Initial Spares

14. Regulation 8 (iii) of 2009 Tariff Regulations provides as under:
"8 Initial spares: Initial spares shall be capitalized as a percentage of the original project cost subject to following ceiling norms:
(i) $x x x x$
(ii) $x x x x$
(iii) Hydro generating stations- 1.5\%
(iv) $x x x x$

Provided that where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost under first proviso to clause (2) of regulation 7, such shall apply to the exclusion of the norms specified herein."
15. The petitioner has claimed initial spares for $₹ 8.62$ crore as part of capital expenditure up to COD of the generating station (1.2.2013). The claim of the petitioner on initial spares works out to $1.03 \%$ of the capital expenditure (₹833.48 crore) as on COD and is within the permissible limit of $1.5 \%$ of the original project cost. Accordingly, the claim of the petitioner for initial spares is allowed.

## Capital Cost for the Purpose of Tariff

16. The petitioner in the petition had claimed projected additional capital expenditure as detailed below, for the purpose of tariff.
(₹ in lakh)

| As on 1.9.2011 | $\mathbf{8 8 3 6 4 . 0 3}$ |
| :--- | ---: |
| Projected Additional Capital Expenditure for 2011-12 | 758.74 |
| Projected Additional Capital Expenditure for 2012-13 | 5195.80 |
| Projected Additional Capital Expenditure for 2013-14 | 168.11 |
| Total | $\mathbf{9 4 4 8 6 . 6 8}$ |

17. As stated in para 6 above, the petitioner by affidavit dated 13.8.2014 has filed amended petition for determination of tariff of the generating station based on the actual COD of the project, actual additional capital expenditure for the period 29.11.2012 to 31.3.2014 and the same has not been considered in this order. The amended petition filed by the petitioner includes the revised tariff filing forms for determination of tariff. Considering the fact that DIA in its report has recommended the completion cost of ₹83348 lakh, the total capital cost is restricted to $₹ 83348$ lakh. Also, the projected additional capital expenditure in 2013-14 has been restricted to ₹7795.04 lakh which
corresponds to the DIA approved cost of ₹83348.00 lakh. The capital cost, based on the latest available balance sheet i.e up to the period 31.12.2012 (one month prior to COD of the generating station) has been worked out and considered for the purpose of tariff as under:

| Cash expenditure till 31.12.2012 to be considered as capital cost <br> for four units of the generating station (after excluding trade <br> payables, current liabilities and short term provisions) | 75552.96 |
| :--- | ---: | ---: |
| Capital cost on 29.11.2012 i.e COD of three units (Units I to III) | 56664.72 |
| Capital cost on COD of Unit-IV /generating station 1.2.2013 | 75552.96 |
| Projected Additional Capital Expenditure for 2013-14 within the <br> completion cost of ₹83348 lakh | 7795.04 |
| Closing capital cost as on 31.3.2014 | $\mathbf{8 3 3 4 8 . 0 0}$ |

18. The capital cost, including the projected additional capital expenditure allowed as above, is subject to revision based on the actual expenditure incurred and the RCE approved by the Ministry of Power, GOI, to be submitted by the petitioner at the time of truing-up of tariff in accordance with Regulation 6 of the 2009 Tariff Regulations. In the meanwhile, the petitioner is directed to place on record the approval of the Board of Director of the petitioner company for the RCE, within a period of three months, pending approval of RCE by MOP, GOI.

## Debt-Equity Ratio

19. Clause (2) of Regulation 12 of the 2009 Tariff Regulations provides as under:
(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered."
20. The normative debt-equity ratio of 70:30 has been considered for capital cost as on COD. The same is subject to truing-up in terms of Regulation 6 (1) of the 2009 Tariff Regulations.

## Return on Equity

21. Clause (3) of Regulation 15 of the 2009 Tariff Regulations, as amended on 21.6.2011 provides as under:
"15 (3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be:

Provided that return on equity with respect to the actual tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up separately for each year of the tariff period along with the tariff petition filed for the next tariff period.'
22. The petitioner vide affidavit dated 21.11.2011 has applied MAT rate for the year 2008-09 for grossing up while calculating the rate of return on equity. Accordingly, the same has been considered and the return on equity has been worked out as under:

|  | (₹ in lakh) |  |  |
| :--- | ---: | ---: | ---: |
|  | 29.11 .2012 to <br> 31.1 .2013 <br> (3 Units) | 1.2 .2013 to <br> 31.3 .2013 <br> (4 Units) | $2013-14$ <br> (4 Units) |
| Gross Notional Equity | 16999.42 | 22665.89 | 22665.89 |
| Addition due to Additional Capital <br> Expenditure | 0.00 | 0.00 | 2338.51 |
| Closing Equity | 16999.42 | 22665.89 | 25004.40 |
| Average Equity | 16999.42 | 22665.89 | 23835.14 |
| Return on Equity (Base Rate ) | $15.500 \%$ | $15.500 \%$ | $15.500 \%$ |
| Tax rate for the year 2008-09 (MAT) | $11.330 \%$ | $11.330 \%$ | $11.330 \%$ |
| Rate of Return on Equity | $17.481 \%$ | $17.481 \%$ | $17.481 \%$ |
| Return on Equity | $\mathbf{5 2 1 . 0 5}$ | $\mathbf{6 4 0 . 4 5}$ | $\mathbf{4 1 6 6 . 5 1}$ |

## Interest on loan

23. Regulation 16 of the 2009 Tariff Regulations provides as under:
"(1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.
(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.
(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year.
(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.
(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project.

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered.

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.
(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.
(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.
(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.
(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute.

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.
24. The interest on loan has been worked out as under:
(a) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the project.
(b) The repayment for the year of the tariff period 2009-14 has been considered equal to the depreciation allowed for that year.
(c) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.
25. The necessary calculation for interest on loan is as under:

|  | 29.11.2012 to <br> 31.1 .2013 <br> (3 Units) | 1.2 .2013 to <br> 31.3 .2013 <br> (4 Units) | 2013-14 <br> (4 Units) |
| :--- | ---: | ---: | ---: |
| Gross Normative Loan | 39665.30 | 52887.07 | 52887.07 |
| Cumulative Repayment | 0.00 | 496.81 | 1107.47 |
| Net Loan-Opening | 39665.30 | 52390.26 | 51779.60 |
| Repayment during the year | 496.81 | 610.66 | 3972.72 |
| Addition due to Additional <br> Capitalization | 0.00 | 0.00 | 5456.53 |
| Net Loan-Closing | 39168.49 | 51779.60 | 53263.41 |
| Average Loan | 39416.90 | 52084.93 | 52521.50 |
| Weighted Average Rate of <br> Interest | $3.53 \%$ | $3.53 \%$ | $3.37 \%$ |
| Interest on Loan | $\mathbf{2 4 4 . 2 5}$ | $\mathbf{2 9 7 . 5 3}$ | $\mathbf{1 7 6 8 . 8 4}$ |

## Depreciation

26. Regulation 17 of the 2009 Tariff Regulations provides as under:
"(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.
(2) The salvage value of the asset shall be considered as $10 \%$ and depreciation shall be allowed up to maximum of $90 \%$ of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site.

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.
(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.
(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system.

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.
(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting 3[the cumulative depreciation including Advance against Depreciation] as admitted by the Commission upto 31.3.2009 from the gross depreciable value of the assets.
(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis."
27. As per submissions of the petitioner, the weighted average rate of depreciation of $5 \%$ has been considered for the calculation of depreciation. However, the rate of depreciation allowed is subject to truing-up based on the actual data for the respective years. Accordingly, depreciation has been worked out and allowed as under:

|  | 29.11 .2012 to <br> 31.1 .2013 <br> (3 Units) | 1.2 .2013 to <br> 31.3 .2013 <br> (4 Units) | $2013-14$ <br> (4 Units) |
| :--- | ---: | ---: | ---: |
| Opening Gross Block | 56664.72 | 75552.96 | 75552.96 |
| Additional capital expenditure during <br> the period | 0.00 | 0.00 | 7795.04 |
| Closing gross block | 56664.72 | 75552.96 | 83348.00 |
| Average gross block | 56664.72 | 75552.96 | 79450.48 |


| Rate of Depreciation | $5.00 \%$ | $5.00 \%$ | $5.00 \%$ |
| :--- | ---: | ---: | ---: |
| Depreciable Value | 50998.25 | 67997.66 | 71505.43 |
| Remaining Depreciable value | 50998.25 | 67500.85 | 70397.96 |
| Depreciation (Annualized) | $\mathbf{4 9 6 . 8 1}$ | $\mathbf{6 1 0 . 6 6}$ | $\mathbf{3 9 7 2 . 7 2}$ |

## O\&M Expenses

28. Sub-clause (v) of Clause (f) of Regulation 19 of the 2009 Tariff Regulations provides as under:

## "19 (f) Hydro generating station

(i) $x x x x$.
(ii) $x x x x$

Provided that operation and maintenance expenses for the year 2009-10 shall be further rationalized considering 50\% increase in employee cost on account of pay revision of the employees of the Public Sector Undertakings to arrive at the permissible operation and maintenance expenses for the year 2009-10.
(iv) $x x x$
(v). In case of hydro generating station declared under commercial operation on or after 1.4.2009, operation and maintenance expenses shall be fixed at $2 \%$ of the original project cost (excluding rehabilitation \& resettlement works) and shall be subject to annual escalation of $5.72 \%$ per annum for subsequent years."
29. Further, Regulation 3(43) of the 2009 Tariff Regulations defines "original project cost" as under:
(43) original project cost' means the capital expenditure incurred by the generating company or the transmission licensee, as the case may be, within the original scope of the project up to the cut-off date as admitted by the Commission;
30. The R\&R expenditure as indicated in the petition is ₹193 lakh. Accordingly, after exclusion of R\&R expenses, the O\&M expenses allowed based on the capital cost allowed is as under.

|  | 29.11 .2012 to <br> 31.1 .2013 <br> (3 Units) | 1.2 .2013 to <br> 31.3 .2013 <br> (4 Units) | (₹ in lakh) <br> (4 Units) |
| :--- | ---: | ---: | ---: |
|  | 1247.33 | 1663.10 | 1758.23 |
| O \& M Expenses (annualized) | 64 | 59 | 365 |
| No. of days | $\mathbf{2 1 8 . 7 1}$ | $\mathbf{2 6 8 . 8 3}$ | $\mathbf{1 7 5 8 . 2 3}$ |
| O \& M expenses allowed (pro rata) |  |  |  |

## Interest on Working Capital

31. The petitioner is entitled to claim interest on working capital as per Regulation 18 of the 2009 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder.
(i) Receivables: As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital are equivalent to two months' of fixed cost. In the tariff being allowed, receivables have been worked out on the basis of 2 months' fixed cost as under:

|  |  | (₹ in lakh) |  |
| :--- | ---: | ---: | ---: |
|  | $29-11-2012$ to <br> $31-1-2013$ | 1.2 .2013 to <br> 31.3 .2013 | $2013-14$ |
|  | (3 Units) | (4 Units) | (4 Units) |
| Receivables | 253.53 | 311.17 | 1997.56 |

(ii) Maintenance spares: Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ $15 \%$ per annum of the O \& M expenses as part of the working capital. The value of maintenance spares has accordingly been worked out as under.
(₹ in lakh)

|  | 29.11 .2012 <br> 31.1 .2013 | 1.2 .2013 to <br> 31.3 .2013 | $2013-14$ |
| :--- | ---: | ---: | ---: |
|  | (3 Units) | (4 Units) | (4 Units) |
| Maintenance Spares | 32.81 | 40.32 | 263.73 |

(iii) O \& M expenses: Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O\&M expenses for 1 month of the respective year. This has been considered in the working capital as under.

|  | 29.11.2012 to <br> 31.1 .2013 <br> (3 Units) | 1.2 .2013 to lakh) <br> 31.3 .2013 <br> (4 Units) | $201-14$ <br> (4 Units) |
| :---: | :---: | :---: | :---: |
| O \& M expenses | 18.23 | 22.40 | 146.52 |

(iv) Rate of interest: Regulation 18(3)(ii) of the 2009 Tariff Regulations, provides that SBI Base Rate plus 350 basis points as on 1.7.2010 or as on 1st April of the year in which the generating station or a unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later, for the units or station whose date of commercial operation lies between the period 1.7.2010 to 31.3.2014. The SBI Base Rate as on 29.11.2012 and 1.2.2013 was 9.75\%. and 3.50 \% respectively. Accordingly, the Rate of interest on working capital of $13.25 \%(9.75 \%+3.50 \%)$ has been considered .
32. Necessary computations in support of calculation of interest on working capital are given as under:

| (₹ in lakh) |  |  |  |  |
| :--- | ---: | ---: | ---: | :---: |
|  | 29.11 .2012 to <br> 31.1 .2013 <br> (3 Units) | 1.2 .2013 to <br> 31.3 .2013 <br> (4 Units) | $2013-14$ <br> (4 Units) |  |
| Maintenance Spares | 32.81 | 40.32 | 263.73 |  |
| O \& M expenses | 18.23 | 22.40 | 146.52 |  |
| Receivables | 253.53 | 311.17 | 1997.56 |  |
| Total | 304.56 | 373.90 | $2,407.81$ |  |
| Interest on Working Capital @ 13.25\% | $\mathbf{4 0 . 3 5}$ | $\mathbf{4 9 . 5 4}$ | $\mathbf{3 1 9 . 0 3}$ |  |

## Annual Fixed Charges for 2009-14

33. The annual fixed charges for the period from 29.11.2012 to 31.3.2014 in respect of the generating station are allowed as under:

|  | $\mathbf{2 9 . 1 1 . 2 0 1 2}$ to <br> $\mathbf{3 1 . 1 . 2 0 1 3}$ | $\mathbf{1 . 2 . 2 0 1 3}$ to <br> $\mathbf{3 1 . 3}$ lakh) | $\mathbf{2 0 1 3 - 1 4}$ |
| :--- | ---: | ---: | ---: |
| Return on Equity | 521.05 | 640.45 | 4166.51 |
| Interest on Loan | 244.25 | 297.53 | 1768.84 |
| Depreciation | 496.81 | 610.66 | 3972.72 |
| Interest on Working Capital | 40.35 | 49.54 | 319.03 |
| O \& M Expenses | 218.71 | 268.83 | 1758.23 |
| Total | $\mathbf{1 5 2 1 . 1 7}$ | $\mathbf{1 8 6 7 . 0 2}$ | $\mathbf{1 1 9 8 5 . 3 4}$ |

## Design Energy

34. The month wise details of Design Energy of the project are as under:

| Month | Period | Design Energy* (MUs) |
| :---: | :---: | :---: |
| April | I | 3.29 |
|  | II | 3.30 |
|  | III | 3.92 |
| May | I | 5.07 |
|  | II | 6.64 |
|  | III | 9.67 |
| June | I | 10.03 |
|  | II | 10.03 |
|  | III | 10.03 |
| July | I | 10.03 |
|  | II | 10.03 |
|  | III | 11.04 |
| August | I | 10.03 |
|  | II | 9.93 |
|  | III | 11.04 |
| September | I | 10.03 |
|  | II | 9.15 |
|  | III | 7.75 |
| October | I | 6.17 |
|  | II | 4.50 |
|  | III | 4.40 |
| November | I | 4.38 |
|  | II | 3.96 |
|  | III | 3.78 |
| December | I | 2.86 |
|  | II | 2.76 |
|  | III | 3.02 |
| January | I | 2.75 |
|  | II | 2.75 |
|  | III | 3.02 |
| February | 1 | 2.75 |
|  | II | 2.75 |
|  | III | 2.20 |
| March | I | 2.95 |
|  | II | 3.19 |
|  | III | 3.69 |
| Total |  | 212.93 |

The Design Energy of 212.93 MUs as above has been approved by CEA and the same is allowed.
35. Based on the Design Energy of 212.93 MUs approved by CEA, the NAPAF of the generating station works out to $55 \%$ in terms of Regulation 27 (1) of the 2009 Tariff

Regulations. The petitioner, in its original petition has prayed that NAPAF of $45 \%$ may be allowed for the generating station after accounting for $5 \%$ reduction due to high silt conditions and 5\% reduction due to hostile climatic conditions which affect the operation and maintenance of the generating station. However, the petitioner in the Interlocutory Application No. 15/2012 had prayed for allowing relaxed norms for NAPAF and Design Energy for generating station till full load is made available and project is connected with regional grid / state grid whichever is later. The Commission in order dated 31.12.2012 disposed of the prayer of the petitioner holding as under:


#### Abstract

"23. On scrutiny, it is noticed that the petitioner has not submitted any justification to establish through data, the detail of the number of days/hours in a year during which the operation of the generating station would be affected due to the high silt conditions as envisaged by the OEM. Under these circumstances, we are not inclined to allow the prayer of the petitioner for 5\% allowance in NAPAF of the generating station due to high silt operating conditions. However, the petitioner is at liberty to approach the Commission for relaxation in NAPAF due to high silt conditions and the same would be considered in accordance with law and is subject to production of records containing details of the number of days/hours in the first year of operation (after declaration of commercial operation) during which the generating station was affected due to high silt conditions and its impact on recovery of annual fixed charges.


$x x x x$
xxxx
26. As stated, the provisions of Regulation 27(1) enables the Commission to allow 5\% allowance in NAPAF for hydrogenating stations considering the difficulties in North East Regions. The generating station of the petitioner is situated in the State of J\&K. Considering the fact that the environmental/climatic conditions in the State of J\&K is more hostile than the regions of North East, we are inclined to allow 5\% allowance in NAPAF for the generating station in relaxation of Regulation 27(1)(3) of the 2009 Tariff Regulations, in exercise of power under Regulation 44 of the 2009 Tariff Regulations.
27. Based on the above discussions, the NAPAF of the generating station is considered as $50 \%$ towards the recovery of capacity charges by the petitioner."
36. As regards the prayer of the petitioner for recovery of annual fixed charges and energy charges based on actual energy generated as per available load, the Commission in order dated 31.12.2012 in I.A.No. 15/2012 has held as under:

[^0]connection, Regulation 22 (2) of the 2009 Tariff Regulations which provides for recovery of monthly capacity charges reads as under:
"The capacity charge (inclusive of incentive) payable to a hydro generating station for calendar month shall be AFC x $0.5 \times$ NDM / NDY x (PAFM / NAPAF) (in Rupees)

Where, Plant Availability Factor achieved during the month, in percentage (PAFM) is to be calculated based on the capacity declared by the generator and not on the basis of capacity scheduled by the beneficiaries."
17. In the circumstances, the petitioner shall be able to recover the capacity charges corresponding to the declared capacity depending upon the water availability. The constraints of the respondent in not making the available load commensurate to the declared capacity would not in any way hamper the recovery of capacity charges corresponding to capacity declared to be available by the petitioner. In view of this, the recovery of capacity charges by the petitioner shall be in terms of the provisions of the 2009 Tariff Regulations. Thus, the prayer of the petitioner on this count is answered accordingly.
18. As regarding recovery of Energy Charges, we notice that the formulae for recovery of monthly energy charge payable to the generator is with regard to the scheduled energy (exbus) and not with respect to the energy declared to be generated (ex-bus) by the generator depending upon the water availability during the month. In this regard, Regulation 22 (4) of the 2009 Tariff Regulations provides as under:
"The energy charge shall be payable by every beneficiary for the total energy scheduled to be supplied to the beneficiary, excluding free energy, if any, during the calendar month, on ex power plant basis, at the computed energy charge rate. Total Energy charge payable to the generating company for a month shall be:
(Energy charge rate in Rs/kWh) x \{Scheduled energy (ex-bus) for the month in kWh\} x (100 -FEHS) / 100."
19. Taking into consideration that the recovery of energy charges shall be less if the beneficiary demands/schedules for lesser energy (than declared by the generator) due to non-availability of load, we, in exercise of power under Regulation 44 of the 2009 Tariff Regulations, relax the provisions of Clause (4) of Regulation 22 of the 2009 Tariff Regulations and allow the recovery of energy charges, corresponding to difference between energy declared to be generated and the energy scheduled by the beneficiary (due to nonavailability of load) as deemed generation along with recovery of monthly energy charges for scheduled energy to be calculated as per provisions of the 2009 Tariff Regulations. The prayer of the petitioner is allowed in terms of the above."
37. The annual fixed charges allowed as above shall be recovered by the petitioner with the relaxation of operational /technical norms, the deemed energy benefit for recovery of Energy charges and the NAPAF of $50 \%$ allowed by the Commission in order dated 31.12.2012 in I.A. No.15/2012 (Petition No.3/GT/2013). However, we direct that the0000 recovery of fixed charges and Energy charges in terms of the provisions of the 2009 Tariff Regulations, shall be exclusive of incentive, if any, till the project is connected to the grid
or the load commensurate with the plant capacity of 44 MW is available, whichever is earlier.

## Water usage charges \& License fee

38. The petitioner has submitted that the Government of J\&K has levied additional charges for water usage for generation of electricity and license fee for using water, under Jammu \& Kashmir Water Resources (Regulation and Management) Act, 2010. Accordingly, the petitioner has prayed for recovery of the actual expenditure incurred on account of license fee and water usage charges from the respondent in terms of Regulation 22 (7)(a) of the 2009 Tariff Regulations, as amended on 31.12.2012. The said regulation provides as under:
"7a. In case of the hydro generating stations of NHPC Ltd., located in the State of Jammu \& Kashmir, any expenditure incurred for payment of water usage charges to the State Water Resources Development Authority under Jammu \& Kashmir Water Resources (Regulations and Management) Act, 2010 shall be payable by the beneficiaries as additional energy charge in proportion of the supply of power from the generating station on month to month basis.

Provided that the provisions of this clause shall be subject to the decision of the Hon'ble High Court of Jammu \& Kashmir in OWP No.604/2011 and shall stand modified to the extent of inconsistency with the decision of the High Court."
39. In terms of the above regulation, the petitioner is permitted to recover the actual expenditure incurred on account of license fee and water usage charges from the respondent.
40. In addition to the above, the petitioner has prayed for recovery of the entire expenditure to be incurred for implementation of the scheme for supply of electricity in 5 km area around central power plants as per directive of the Ministry of Power, Govt. of India in letter dated 27.4.2010. The petitioner has also prayed that the charges for single lamp electricity connections and supply of electricity to BPL households may be allowed to be billed and reimbursed from the beneficiary. It is observed that the Ministry of Power, Govt. of India vide letter dated 25.3.2013 had withdrawn the scheme for supply of
electricity in 5 km area around central power plants. In view of the above, the prayer of the petitioner has not been allowed.
41. The filing fees deposited by the petitioner for this tariff petition and the publication fees paid by the petitioner shall be reimbursed by the beneficiaries in line with Regulation 42 of the 2009 Tariff Regulations.
42. The claim of the petitioner towards recovery of RLDC fees \& charges incurred by the petitioner is disposed of in terms of our order dated 6.2.2012 in Petition No.140/MP/2011 (NTPC-v-POSOCO Ltd \& ors).
43. The petitioner is billing the respondent in terms of the Commissions' order dated 1.4.2013. The difference in the annual fixed charges determined by order dated 1.4.2013 and this order shall be adjusted in accordance with Regulation 5 (3) of the 2009 Tariff Regulations.
44. Petition No. 003/GT/2013 is disposed of in terms of the above.

Sd/-
(A.K.Singhal) Member

Sd/-
(M. Deena Dayalan)

Member

Sd/-
(Gireesh B. Pradhan)
Chairperson


[^0]:    "16. The prayer of the petitioner for recovery of annual fixed charges based on actual energy generated from the generating station as per the available load, considered in the above background, cannot be accepted, since the capacity charges are recoverable on monthly basis based on the available capacity declared by the generator depending upon water availability and has no relevance to the actual capacity scheduled by the beneficiaries. In this

