

**Central Electricity Regulatory Commission  
New Delhi**

**Petition No. 220/MP/2011**

**Coram:**

**Shri V.S.Verma, Member**

**Shri M. Deena Dayalan, Member**

**Date of Hearing: 20.6.2013**

**Date of Order: 11.12.2013**

**In the matter of**

Plant Availability Factor (PAF) of Tehri Hydroelectric Power Project Stage -I (4 x 250 MW)  
for the period from 1.4.2010 to 31.3.2011

**And in the matter of**

THDC India Limited,  
Pragtipuram, By pass Road  
Rishikesh-249201  
Uttarakhand

Vs

**....Petitioner**

1. Punjab State Power Corporation Ltd,  
The Mall, Near Kali Badi Mandir,  
Patiala-147001 (Punjab).
2. (a) Dakshin Haryana Bijili Vitaran Nigam Ltd,  
(b) Uttar Haryana Bijili Vitaran Nigam Ltd  
Shakti Bhawan, Sector – 6  
Panchkula – 134 109 (Haryana).
3. Uttar Pradesh Power Corporation Ltd.,  
Shakti Bhawan, 14 Ashok Marg,  
Lucknow-226001.
4. Delhi Transco Ltd.,  
Shakti Sadan, Kotla Road,  
New Delhi-110002.
5. BSES-Rajdhani Power Ltd.,  
BSES Bhawan, Nehru Place,  
Behind Nehru Place Bus Terminal,  
New Delhi-110019.



6. BSES-Yamuna Power Ltd.,  
3rd Floor, Shakti Kiran Building,  
Karkardooma, Near Court,  
New Delhi-110092.

7. North Delhi Power Ltd.,  
33 kV Grid Sub-Station Building,  
Hudson lane, Kingsway Camp,  
Delhi-110009.

8. Engineering Department, Chandigarh Administration,  
1st Floor, UT Secretariat,  
Sector-9D, Chandigarh-160009.

9. Uttarakhand Power Corporation Ltd.,  
Urja Bhawan, Kanwali Road,  
Dehradun-248001.

10. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Shimla-171004.

11. Jaipur Vidyut Vitaran Nigam Ltd.,  
Vidut Bhavan, Janpath,  
Jyoti Nagar, Jaipur-302005(Rajasthan)

12. Jodhpur Vidyut Vitaran Nigam Ltd.,  
New Power House, Industrial Area, Jodhpur-342003

13. Ajmer Vidyut Vitaran Nigam Ltd.,  
Vidut Bhavan, Janpath,  
Jyoti Nagar, Jaipur-302005(Rajasthan)

14. Power Development Department,  
Government of J&K,  
Civil Secretariat, Jammu-180001.

.....Respondents

**Parties Present:**

Shri J. K. Hatwal, THDC  
Shri Rajeev Govil, THDC  
Shri Padamjit Singh, PSPCL  
Shri T.P.S.Bawa, PSPCL  
Shri R. B Sharma, Advocate, BRPL

## ORDER

### **Prayer**

In the present petition filed under Sections 62 read with 79 of the Electricity Act, 2003 ("2003 Act"), the petitioner has prayed as under:

*"It is, therefore, respectfully prayed that this Hon'ble Commission may be pleased to:*

*(a) Hold that the unforeseen circumstances mentioned above constitutes a force majeure condition not attributable to the Petitioner.*

*(b) Relax the Normative Plant Availability Factor for the Financial Year 2010-11 to 74.408% as achieved by the Petitioner for the recovery of full capacity charges.*

*(c) Pass such other order(s) as the Hon'ble Commission may deem just in the facts of the present case."*

2. The matter was heard on 22.1.2013 and the Commission after directing the petitioner to submit additional information reserved its order in the petition. However, as one of the Members of this Commission had demitted office before passing orders, the petition was again listed for hearing on 20.6.2013 and orders were reserved. Accordingly, based on the submissions of the parties and the documents available on record, we examine the petition as stated in the subsequent paragraphs.

### **Submissions of Petitioner**

3. The petitioner, a joint venture company of the Central Government and the State Government of Uttar Pradesh established Tehri Hydroelectric Power Project Stage I (4 X 250 MW) in Tehri Garhwal District in the State of Uttarakhand in 2006/2007 (hereinafter "Tehri HEP"). In addition to Tehri HEP, the petitioner has established or is in the process of establishing, 400 MW Koteshwar Hydroelectric Project (Koteshwar HEP) and 1000 MW Tehri Pumped Storage Plant (hereinafter "Tehri PSP). Koteshwar HEP is said to be located 22 kms downstream the Tehri Dam.

4. The petitioner has stated that when Koteshwar HEP was under construction, water releases from Tehri Dam for Tehri HEP were diverted through Koteshwar underground diversion tunnel to avoid water flow at the construction site of Koteshwar HEP. During December 2010, geological subsidence, a natural calamity, is said to have occurred above the diversion tunnel, before its outlet and the muck got spread inside the tunnel which blocked the flow of water for Tehri HEP. The petitioner is said to have stopped releases of water from Tehri Dam for Tehri HEP as there was no alternative route for release of water, leading to suspension of generation at Tehri HEP. The generation at Tehri HEP remained suspended from 17.12.2010 to 28.1.2011, when Koteshwar HEP's spill gates became operational. However, during this period, Tehri HEP was operated intermittently for short periods to avoid seepage from the diversion tunnel.

5. The petitioner has submitted that on resumption of generation at Tehri HEP during the last week of January 2011, all efforts were made to ensure maximum PAF to compensate for the loss of generation during December 2010 and January 2011, by operating Tehri HEP most optimally, thereby monthly PAF of 106.998% and 100.039% for the months of February 2011 and March 2011 respectively was achieved. The petitioner has submitted that scheduled maintenance of machine of Unit-II of Tehri HEP, originally scheduled for March 2011, was advanced and carried out during the shutdown period and thus, the petitioner did its best to minimise the ill effects of the forced outage on account of natural calamity which was beyond its control. Tehri HEP achieved Plant Availability Factor (PAF) of 46.689% and 24.651% for the months of December 2010 and January 2011 respectively. On account of forced shut down during the months of December 2010 and January 2011, Tehri HEP could achieve the annual PAF of 74.408% during the year 2010-11 against the Normative Annual Plant Availability Factor (NAPAF) of 77% specified by the Commission for Tehri HEP in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff)

Regulations, 2009 (the Tariff Regulations). The petitioner has submitted that reduction in PAF has caused under-recovery of capacity charges to the tune of ₹24.86 crore.

6. Against the above background, the petitioner has prayed for relaxation of NAPAF for the year 2010-11 to 74.408% for the recovery of full capacity charges since according to it the shutdown of Tehri HEP was caused by natural event and for the reasons beyond its control. The petitioner has claimed that suspension of generation during December, 2010 and January 2011 is covered under the *force majeure* clause of the PPA.

### **Reply by UPPCL**

7. Uttar Pradesh Power Corporation Ltd (UPPCL) in its reply has pointed out that the petitioner has not furnished the supporting details for computation of PAF and as such it is not possible to take a view of PAF worked out by the petitioner.

8. On merits, UPPCL has stated that NAPAF of 77% specified by the Commission for Tehri HEP is on the lower side in comparison to other storage plants of NHPC and even of Kopili-I generating station owned by NEEPCO which are 85% and 79% respectively. UPPCL has submitted that while specifying NAPAF for Tehri HEP, the Commission has considered 2% allowance on account of forced outages, which, according to UPPCL, shows that the weightage of all types of risk factors have already been considered by the Commission to arrive at NAPAF of 77% and further relaxation as demanded by the petitioner is not justified. UPPCL has stated that as against NAPAF of 77%, the petitioner has operated Tehri HEP at the level of 106.998% and 100.039% during the months of February and March 2011 respectively which establishes that if it is optimally operated, higher PAF (in comparison to NAPAF of 77%) can be achieved. UPPCL has contested the claim of the petitioner that it has incurred a loss of ₹24.8552 crore. It has been pointed out that generation at Tehri HEP was stopped to save the downstream project named Koteshwar HEP which is also owned by

the petitioner and, therefore, as per accounting policy, the so called loss, subject to approval by the Commission, may be charged to O&M of Koteshwar HEP. Therefore, according to UPPCL, the prayer of the petitioner to secure revised NAPAF of 74.08% does not have any merit.

### **Reply by PSPCL**

9. Punjab State Power Corporation Ltd (PSPCL) has argued that collapse of the diversion tunnel and its consequential impact on generation at Tehri HEP could have been avoided, if the petitioner had completed Koteshwar HEP by its scheduled completion date of 10.4.2005 in which case the diversion tunnel itself would have been non-functional and any failure or collapse could not have affected generation at Tehri HEP. Thus, according to PSPCL, delay in completion of Koteshwar dam spillway was the cause of flooding.

10. PSPCL has submitted that Tehri HEP during 2009-10 and 2011-12 achieved actual PAF much above NAPAF of 77% which enabled the petitioner to earn incentive. PSPCL has pointed out that the profits and extra revenue earned by the petitioner on account of achievement of higher PAF for 2009-10 and 2011-12 have been retained by the petitioner who should bear the loss corresponding to shortfall of 2.592% NAPAF in 2010-11 too. The details of PAF actually achieved furnished by PSPCL are as under:

| <b>Year</b> | <b>PAF</b> | <b>Excess</b> |
|-------------|------------|---------------|
| 2009-10     | 83.976     | 6.976%        |
| 2010-11     | 74.408     | -2.592%       |
| 2011-12     | 85.671     | 8.671%        |

11. PSPCL has alleged that opening of the spillway gates of Tehri Dam was due to gross operational errors and mismanagement on the part of the petitioner which caused spillage of Tehri reservoir. According to PSPCL, the most important and relevant factor is that Koteshwar dam spillway was not functioning or operational on 17.12.2010 and for this

reason, when the diversion tunnel collapsed that day, water released from Tehri Dam could not be discharged through Koteshwar dam spillway and thereby generation at Tehri HEP had to be stopped.

12. PSPCL has further pointed out that during July, 2010 Tehri HEP was operated at a very low average generation of 177 MW with the result that water from Tehri Dam was not utilised and the reservoir level shot up from 743 metre on 1.7.2010 to 784.85 metre on 31.7.2010. It has been pointed out that low generation continued up to 8.8.2010 resulting in further rise in water level to 805 metre and only on 9.8.2010, the generation was increased to 1000 MW, but still the reservoir level reached its full level of 830 metre on 20.9.2010.

13. PSPCL has argued that the hillside should have been strengthened with concrete and the tunnel itself should have been given more reinforcement. Hence, according to PSPCL, subsidence in hill was a design and construction error. PSPCL has also relied upon certain press reports, according to which a link road was being constructed by the petitioner in the hill portion just adjacent to the Koteshwar dam on the left bank because of which there was a land slide resulting in the collapse of the tunnel. PSPCL has urged that when road was being constructed right next to the dam, the petitioner should have taken measures to ensure that the road construction does not result in formation of sink-hole leading to failure of the diversion tunnel. PSPCL has placed on record the extracts of the report which states as under:

*"The land slide was apparently triggered by construction of a link road leading to nearby Auli village, just above the Koteshwar dam. Sources said the landslide was so heavy that a damaged large track of the under constructed road, blocking the tunnel."*

14. Based on the above averments, PSPCL has argued that the claim of the petitioner that suspension of generation at Tehri HEP was on account of *force majeure* is not sustainable. PSPCL has attributed loss of generation to the petitioner since according to PSPCL collapse of the diversion tunnel is due to failure on the part of the petitioner to suitably reinforce the

hill area right next to Tehri dam, where the diversion tunnel was located. PSPCL has pointed out that there is no enquiry report from any independent agency to support the petitioner's claim that subsidence was on account of geological reasons.

15. During the hearing on 22.11.2012, the representative of PSPCL, based on an article by Director (Technical) of the petitioner company in the Business Standard of 23.12.2010, submitted that the water available because of non-generation has been saved and subsequently used for generation which has led to increase in PAF in the subsequent months. For this reason too, according to PSPCL, the petitioner is not entitled to relaxation in NAPAF.

#### **Reply by BRPL**

16. BSES Rajdhani Power Ltd (BRPL) has argued that as per *Force Majeure* clause in the PPA, the onus of satisfying the other party of the existence of such an event (*Force Majeure* event) is on the party invoking this clause. The party is required to give a written notice within a reasonable time to this effect. BRPL has pointed out that the procedure prescribed under the PPA as regards written notices has not been complied with by the petitioner. BRPL has submitted that the petitioner's submission that 'intimation of such an exigency and its subsequent impact on generation from Tehri HEP was given to all the concerned departments of Govt. of India including the NRLDC' does not amount to compliance with the requirements of *Force Majeure* clause since intention of the clause is to relieve the non-performing party of the consequences of anything over which it has no control. The claim of the petitioner for reduction of NAPAF due to under-recovery is contrary to *force majeure* condition. It has lastly been urged on behalf of BRPL that though the basic problem related to the construction of Koteshwar HEP and the diversion of water to avoid water flow affecting the said construction, the relief has been sought for Tehri HEP. At the hearing, it was pointed out on behalf of BRPL that from the geological report furnished by the petitioner it is not clear



whether the occurrence of the calamity was an "Act of God" or was on account of poor construction.

### **Petitioner's Rejoinders**

17. In the rejoinder filed to the reply by UPPCL, the petitioner has clarified that PAF of 74.408% for the year 2010-11 has been calculated as per the formulae specified by the Commission under the Tariff Regulations, based on the REA by NRPC for the month of March, 2011 and has furnished the unit-wise running hours and details of energy generation. The petitioner has submitted that allowance of 2% factored in NAPAF of 77% on account of forced outages does not take into consideration the unforeseen geological failures like the one encountered on account of collapse of diversion tunnel. The petitioner has submitted that the situation could not have been prevented by any amount of prudent industry practices.

18. In its rejoinder to the reply of PSPCL, the petitioner has not disputed the correctness of the data of PAF actually achieved during 2009-10 and 2011-12 furnished by PSPCL but has disputed the correctness of the inference drawn that the petitioner should suffer the disincentive.

19. The petitioner has discounted the premise of the submission of PSPCL that the petitioner itself is responsible for suspension of generation at Tehri HEP on account of delay in completion of Koteshwar HEP beyond its commissioning schedule. The petitioner has submitted various reasons for the time over-run in commissioning of Koteshwar dam which include delay in acquisition of land, agitation by the land oustees, delay in award of hydro-mechanical package because of the court case filed by one of the bidders, soaring prices of input material due to which payment to suppliers, PRWs, salary and wages were not being released by the contractor resulting in slow pace of work etc.

20. The petitioner has explained that at the stage when only a few balance civil and hydro-mechanical works were required to be completed to provide for water flow in the downstream of Koteshwar HEP through Koteshwar spillway, heavy and unprecedented rains caused flooding of the power house of Koteshwar HEP on 21.9.2010. It has been stated that after the flood water receded, the power house was dewatered on 16.10.2010 and restoration activities and balance works were taken up on war footing. However, the petitioner has submitted that the geological subsidence occurred on 17.12.2010 above the underground diversion tunnel causing blockade of water flow from Tehri HEP which affected the power generation. The petitioner has explained that at that time, diversion tunnel was the only outlet for release of water for Tehri HEP. The petitioner has submitted that design of Koteshwar HEP is such that the dam, spillway and power house are adjacent to each other and the water cannot be released over the spillway before completion of civil and hydro-mechanical works at the power house. Hence, according to the petitioner, a situation of *force majeure* arose resulting in shut down of the Tehri HEP. After completion of necessary works, the petitioner has stated, diversion tunnel gate of Koteshwar HEP was lowered on 23.1.2011 and water was let to pass through the Koteshwar spillway on 27.1.2011. The petitioner has submitted that the dam and spillway could not be commissioned before 17.12.2010 though Koteshwar dam achieved full height of 618.5 meter in June 2010 because of flooding of power house on 21.9.2010. The petitioner has further submitted that different government and private agencies of repute were involved in the commissioning of the project right from the DPR stage and the petitioner had taken all possible steps to reinforce the structures and tunnels and could not have prevented the subsidence of the tunnel.

21. Regarding release of water through the spillway of Tehri dam resulting in the flooding of Koteshwar dam, the petitioner has submitted that there was no mismanagement of the filling of the reservoir of Tehri. The petitioner has submitted that in spite of all measures

taken by it, release of water from spillway of the Tehri Dam was for the reason that the water level crossed FRL of 830 meters due to unprecedented rains. According to the petitioner, once the reservoir level crossed EL 830m, there was hardly any option to control or regulate the discharge as water automatically flowed because of un-gated shaft spillway having its crest at 830.2 meters. The petitioner has asserted that the high inflows was the only reason for which Tehri spillways automatically released water once the water level crossed 830 meters and caused flooding of under-construction Koteshwar HEP.

22. In the rejoinder to the reply of BRPL's reply, the petitioner has claimed that it approached the Commission genuinely since Tehri HEP could not be operated for 41 days. It has stated that the *force majeure* provision has been invoked after giving notice to NRLDC. According to the petitioner, points raised by BRPL were discussed in the committee meetings and, therefore, these points are hypothetical.

#### **Information called by Commission**

23. In response to the Commission's direction to submit the report on the issue of formation of sinkhole, the petitioner vide affidavit dated 12.1.2012, has filed the report titled "Sinkhole generated blockage in diversion tunnel of Koteshwar HEP", prepared by its Consultant (Geologist) along with two other Geologists. The report maintains that the sinkhole formation and subsequent blockage of the diversion tunnel due to debris is due to hydro-fracturing of rocks initiated by seepage of water due to incessant rains during monsoon season of 2010, followed by the dry spell. In reply to the Commission's another query regarding the measures envisaged while constructing the diversion tunnel in case of such eventuality, the petitioner has clarified as follows-

*"Principal stability measures included heavy steel supports inside the tunnel, well designed concrete portals at inlet and outlet, stabilization of slopes in inlet and outlet reaches by way of reinforced concrete and tensioned rock bolts etc."*

24. In response to the Commission's further direction whether adequate stability measures envisaged by the petitioner were actually adopted while constructing the diversion tunnel, the petitioner vide its affidavit dated 29.12.2012 has submitted as follows-

- (a) Adequate stability measures were taken at project site while constructing diversion tunnel.
- (b) Central Water Commission (CWC) was engaged as Principal Design Consultant for civil design of different components of Koteshwar HEP. CWC has issued relevant civil construction drawing for different structures of Koteshwar HEP. Excavation / slope stabilization measure details for left bank, excavation/ support system / concrete lining for diversion tunnel, details of inlet and outlet portals etc. were finalized based on the geological information provided by Geological Survey of India (GSI).
- (c) Geological Survey of India was closely associated with Koteshwar HEP since start of excavation activities at Koteshwar project site and all kind of support measures were decided in consultation with GSI.
- (d) Diversion tunnel's failure was due to unique geological formation i.e. sinkhole above diversion tunnel which got activated due to excessive rainfall in the region in the monsoon of the year 2010 and led to choking of diversion tunnel. Hence, occurrence of calamity was a natural phenomenon only or it can be termed as unusual geological surprise despite the adequate geological investigations carried out through GSI and M/s Hydro Project Institute, Russia.
- (e) There has been a separate wing for Quality Control at Koteshwar HEP. Construction quality was strictly as per the Technical Specifications of the works/relevant IS codes.
- (f) Central Soil and Materials Research Station (CSMRS), a Government of India body, was kept as the quality consultant during the construction period and was also closely associated with the Koteshwar HEP for independent evaluation of quality of different construction activities.
- (g) There has been a separate wing for Quality Control at Koteshwar HEP, headed by senior level Executives.
- (h) CWC finalized left bank excavation and slope stabilization details based on geological information provided by GSI. These measures were implemented for proper strengthening of left bank slopes based on relevant CWC drawings/ details.
- (i) The geological report was prepared by an expert Geologist who has been working on freelance basis and providing technical services to different organizations, including the petitioner.

- (j) The geological report was also seen by CWC and was also deliberated in the meetings of Technical Advisory Committee (TAC) which consists of eminent Government Technical personnel retired from CWC, CEA, UPID, GSI, NHPC, KPCL and THDCIL etc and had handled different hydropower projects in one capacity or the other.

25. The Commission further directed the petitioner to file the Report of the Central Water Commission and the Central Electricity Authority on the flooding of Koteshwar Power House. The petitioner has submitted the report vide its affidavit dated 11.2.2013. From the report it is observed that after deliberating the issue of flooding of the under-construction Koteshwar HEP, the Committee has concluded as follows:

- (a) *Construction work at Koteshwar had to be expedited to achieve the compressed schedule of commissioning. Due to this, work was under various stages of completion even during monsoon period i.e. June-2010 through Sept. 2010.*
- (b) *Diversions planning during the construction period has to be made by project authorities considering the possible flood events and site specific conditions and constraints. In the instant case, only a diversion tunnel was available with a reduced capacity of 800 cumec. It was proposed only to cater to tackle the regular outflows from upstream Tehri reservoir and power house.*
- (c) *To avoid flooding of Koteshwar works, Tehri reservoir with its live storage of 2615 Mcm upto El 830.00 m was readily available to absorb any floods higher than the capacity of Koteshwar diversion tunnel. Considering this, project authorities kept maximum reliance on the holding capacity of Tehri to tackle construction period floods at Koteshwar site.*
- (d) *Protection of constructed / erected works from construction stage flooding is achieved through certain measures (as indicated in Para (i) (a) to (E) at Page No. 12). However, in this case, mainly due to constraints of expeditious commissioning, these measures could not be taken.*
- (e) *Closing of power intakes as well as tail race opening by any feasible method was not possible given the constraints of various ongoing works at the time of flooding and very short period of the flood event.*
- (f) *Even if theoretically the intakes were blocked, the inflow in Koteshwar reservoir was such that (under the conditions of spillway gates being in-operative), the power house and the dam would have been over topped.*

- (g) *The statement of CVO in his report "the change/ deviation from initial plan of construction methodology to achieve progress with an amount of risk have in principle consent of CWC" is not factual.*
- (h) *Various references attributed to CWC in the CVO's report are examined and cross checked by the Committee and are not found factual as brought out in CWC's clarifications.*
- (i) *There does not appear to be any deliberate attempt to cause flooding in view of prevailing position and absence of any possible mitigation scenarios as explained above.*

26. In response to the above, the respondent, BRPL has submitted as follows:

(a) The flooding of the Koteshwar Hydroelectric project has been examined by the CVO, THDC and the Central Vigilance Commission and thereafter referred the complaint against Shri RST Sai, CMD, TDDCIL and others for examination by the Central Electricity Authority (CEA) as the related issue was technical in nature. The issue was examined by the Committee constituting the Officers of the CEA and CWC which was headed by Member (Hydro) of the CEA which submitted its report to the Ministry of Power. Para (ii) and Para (iii) of the conclusions of the report of this Committee are quoted below:

*"(ii) Diversion planning during the construction period has to be made by project authorities considering the possible flood events and site specific conditions and constraints. **In the instant case, only a diversion tunnel was available with a reduced capacity of 800 cumec.** It was proposed only to cater to tackle the regular outflows from upstream Tehri reservoir and power house.*

*(iii) To avoid flooding of Koteshwar works, Tehri reservoir with its live storage to 2615 Mcm up to 830.00 m was readily available to absorb any floods higher than the capacity of Koteshwar diversion tunnel. Considering this, project authorities kept maximum reliance in the holding capacity of Tehri to tackle construction period floods at Koteshwar site."*

(b) The above conclusion of the Committee would show that the diversion tunnel planned by the project authorities was of inadequate capacity. Although the Committee in its report to the Ministry of Power has not attributed any malafide/deliberate intentions to flood the Koteswar Hydroelectric Project, yet it cannot be said that the act was beyond the control of the project authorities and therefore the expenses incurred on this account cannot be shifted to the beneficiaries.

(c)The report of the Committee constituting the Officers of the CEA and CWC headed by Member (Hydro) of the CEA also negates the claim of the Petitioner-THDC that the collapse of the diversion tunnel of Koteshwar HEP was due to the unforeseen geological failure, a natural calamity and a situation of 'Force Majeure' which according to THDC was beyond its control. BRPL has stated that the Petitioner could not have operated Tehri HEP to generate electricity because of the natural circumstances prevalent. All these claims of the Petitioner have been negated by the report of the Committee which has very clearly brought out that the flooding of the Koteshwar HEP had occurred on account of inadequate capacity of the diversion tunnel planned by the project authorities at a huge risk. BRPL has further submitted that the project authorities have approached the Hon'ble Commission with distorted facts on this issue as the whole issue of construction of the diversion tunnel for diverting the water to avoid water flow affecting construction at Koteshwar HEP has been mishandled by the project authorities. BRPL has also contended that the beneficiaries cannot be held responsible for the lapse on the part of the project authorities of the petitioner company and the and the expenses arising out of this lapse should be borne by the project authorities.

27. In response to the submissions of BRPL, the petitioner in its rejoinder vide affidavit dated 1.8.2013 has submitted as under:

- (a) Diversion tunnel of Koteshwar HEP was planned as per prevailing practices/BIS codes relevant for diversion capacities of concrete Dams. Moreover, Koteshwar HEP was constructed after getting necessary technical clearance from Govt. of India.
- (b) DPR of Koteshwar was prepared by UPID and UPSEB in 1986. Diversion tunnel was planned for maximum non-monsoon discharge (670 cumecs) which had actually passed down the river at the dam site during the last 30 years. Later, DPR of Koteshwar was updated by M/s HPI, Moscow in 1994 and following were firmed up regarding diversion tunnel.
  - (i) A horse shoe shape and 8.0 m dia. tunnel of 582m length was envisaged for the maximum flow of May-660 cumecs (maximum flow in the low water period).
  - (ii) The diversion tunnel could pass a maximum flow of 1180 cumecs with U/s water level of EL 605.7M.

(iii) Flow through the diversion tunnel depends on u/s water level e.g. the diversion tunnel could pass safely a discharge of 600 cumecs with upstream water level at EL 557.6m and 1180 cumecs with upstream water level at EL 605.7m.

- (c) As regards BRPL submission that the Committee report negates the claim of the petitioner, it has been submitted that the Committee has come to the following conclusion:

*"It is to mention that the construction activities were going on at war footing in all the fronts for expeditious commission and there does not appear any malafide /deliberate intention to flood the power house"*

## **Analysis**

28. We have heard learned counsel and the representatives of the parties. We have also gone through the rival submissions.

29. The petitioner's claim for relaxation of NAPAF for the year 2010-11 is based on the *force majeure* condition in the PPA executed between the petitioner and the beneficiaries.

Article 13 of the PPA, dealing with Force Majeure clause reads as under:

### **"13. Force Majeure**

*The parties shall ensure due compliance with the terms of this Agreement. However, no party shall be liable for any claim for any loss or damage whatsoever arising out of failure to carry out the terms of the agreement to the extent that such a failure is due to force majeure events such as war, rebellion, mutiny, civil commotion, riot, strike, lock-out, epidemics, landslide, fire, explosion, flood, drought, cyclone, lightning, earthquake or other forces of nature, accident or Act of God. The onus of satisfying the other party of the existence of such an event(s) shall be on the party invoking this clause who will give a written notice within a reasonable time to the other party to this effect. Generation/ drawl shall be started as soon as possible by the parties concerned after such eventuality has come to an end or ceased to exist."*

30. A reading of *force majeure* clause, reveals the following, namely –

- (a) The parties are enjoined to ensure due compliance with the terms of the PPA.
- (b) No party can be held liable for any claim for any loss or damage whatsoever arising out of failure to carry out the terms of the PPA so long as such failure is on account of *force majeure* events as defined in the PPA, which include floods, landslides, other forces of nature, accident or Act of God.
- (c) The onus of satisfying the other party of the existence of a *force majeure* event is always on the party invoking the *force majeure* clause.



- (d) The party invoking the *force majeure* clause is mandated to give a written notice within a reasonable time to the other party of occurrence of the *force majeure* event.
- (e) Generation/drawal must start as soon as possible by the parties concerned after *force majeure* event has come to an end or has ceased to exist.

31. The first issue to be seen is whether suspension of generation at Tehri HEP during the period 17.12.2010 to 28.1.2011 is attributed to any of the force majeure events mentioned in Article 13 of the PPA. The petitioner has submitted that on account of geological subsidence, which is a natural calamity, the underground diversion tunnel used for release of water for Tehri HEP got blocked. Consequently, the petitioner suspended generation of electricity from Tehri Dam. The petitioner has submitted that after completion of necessary works, diversion tunnel gate of Koteshwar HEP was lowered on 23.1.2011 and water was allowed to pass through the spillway on 27.1.2011. Accordingly, generation of electricity from Tehri HEP resumed on 29.1.2011. On the other hand, the respondents have attributed the temporary suspension of generation of electricity from Tehri HEP to the petitioner alleging defects and deficiencies in design and construction. The petitioner has explained that the experts from different fields were closely associated with the designing and construction of Koteshwar HEP including monitoring every aspect of construction. The petitioner has submitted that CEA constituted a Committee to enquire into the incident in which CWC was associated. The Committee has not pinpointed any fault on the part of the petitioner or its employees. The Committee has come to the conclusion that closing of water intakes and tail race opening were not possible, given the constraints of very short periods of the flood event and that even if theoretically the intakes were blocked, the inflow in Koteshwar reservoir was such that the power house and the dam would have been over topped since the spillway gates were inoperative. The Committee has negated the possibility of any deliberate attempt on the part of the petitioner or its employees to cause flooding. The Committee in particular disagreed with the findings in the CVO's report to the effect that "the

change/deviation from initial plan of construction methodology to achieve progress with an amount of risk have in principle consent of CWC". In view of the above findings, no blame can be attached to the petitioner either in the designing or construction of Koteshwar HEP. From the sequence of events it emerges that the incident of geological subsidence over the underground diversion tunnel used for release of water from Tehri HEP and consequential blockade of the diversion tunnel led to suspension of generation at Tehri HEP. Since geological subsidence on the diversion tunnel was an accident resulting from heavy rains which could not be foreseen or prevented by the petitioner, the incident in our view is a *force majeure* event under Article 13 of the PPA.

32. The next issue is whether the petitioner is entitled to the relief claimed on account of the above *force majeure* event. The *force majeure* clause can be invoked by a party only after the service of notice to the other party or parties within a reasonable time. BRPL has specifically averred that the petitioner did not serve any notice. The petitioner in its rejoinder has clarified that notice of suspension of generation was sent to NRLDC. In our view, the intimation sent by the petitioner to NRLDC was in compliance with the Grid Code and does not amount to service of notice to the beneficiaries who are parties to the PPA, under Article 13 of the PPA. The petitioner has sought to draw sustenance under the *force majeure* clause for the first time in the present petition. There is a procedural lapse on the part of the petitioner that comes in the way of invoking the *force majeure* clause. Therefore, the petitioner is not entitled to any relief under force majeure provision of the PPA.

33. The petitioner has sought relaxation of NAPAF of 77% applicable in case of Tehri HEP under Regulation 44 of the 2009 Tariff Regulations, on account of suspension of generation due to subsidence on the diversion tunnel from Tehri HEP. The said Regulation reads as under:

*“44. **Power to Relax.** The Commission, for reasons to be recorded in writing, may relax any of the provisions of these regulations on its own motion or on an application made before it by an interested person.”*

34. The ‘Power to Relax’ under the Tariff Regulations can be exercised by the Commission by recording the reasons therefor on its own motion or on an application filed by any interested person. The ‘Power to Relax’ under the Tariff Regulations can be invoked by the Commission to ease hardship caused. It is an established principle that relaxation can be granted only if it does not adversely affect the rights of any other person. In the instant case, the petitioner has sought relaxation to recover full capacity charges for the year 2010-11 despite the fact that supply of power to the beneficiary-respondents remained suspended for certain period during December 2010 and January 2011. The grant of relaxation under the circumstances brought out by the petitioner will cause double hardship to the beneficiary-respondents. In the first instance they have been deprived of their share of power for no fault and secondly, they are asked to bear the capacity charges for such non-supply. On account of the forced outage of Tehri HEP, the beneficiaries lost precious peaking energy for 41 days. Considering the fact that the beneficiaries would have met this shortfall by buying power from alternative sources, such as through power exchanges or bilateral transactions, etc., relaxation in NAPAF will result in further loss to the beneficiary-respondents by way of recovery of full capacity charges by the petitioner. In our view, it will not be prudent to invoke our power under Regulation 44 of the 2009 Tariff Regulations to relax the requirement of prescribed NAPAF for Tehri HEP for the year 2010-11.

35. The matter may be considered from another angle too. Collapse of diversion tunnel due to heavy rains caused suspension of generation at Tehri HEP during 2010-11. As a result, the petitioner is said to have suffered a loss of ₹24.86 crore. It is, however, also a fact that heavy rainfall enabled the petitioner to generate electricity exceeding the design energy during the year and earn incentive in terms of energy charges. Tehri HEP generated

3116.03 MUs during the year 2010-11 as against the design energy of 2797 MUs. After accounting for free power and auxiliary energy consumption, the petitioner became entitled to recover an amount of ₹22.19 crore, calculated @ ₹.0.80/unit as incentive in accordance with the 2009 Tariff Regulations for the energy equal to 277.38 MUs. When viewed from this angle, the loss in capacity charges has been made good to a large extent by gain in energy charges.

36. PSPCL has placed on record the details of incentive earned by the petitioner during 2009-10 and 2011-12 and has argued that the petitioner should not be allowed to recover loss incurred during 2010-11. We find force in the argument of PSPCL. Regulation 21 of the 2009 Tariff Regulations provides for incentive for over performance and disincentive for under performance. The ratio of incentive and disincentive is same and accordingly, there is equitable sharing of risk between the generator and the beneficiaries. There is further provision under Regulation 22(7) of the 2009 Tariff Regulations for incentive in energy charges for generation above design energy. Therefore, the utilities like the petitioner are not expected to rush to the Commission to seek compensation by invoking the 'Power to Relax' when they suffer losses for no fault of the beneficiaries.

37. For all the above reasons, the petitioner's prayer for relaxation NAPAF in respect of Tehri HEP to enable it to recover the full capacity charges for the year 2010-11 is not maintainable. Accordingly, the petition is dismissed.

**Sd/-**  
**(M. Deena Dayalan)**  
**Member**

**Sd/-**  
**(V. S. Verma)**  
**Member**