

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
Original Application No. 171 of 2023/EZ

IN THE MATTER OF:

SUO MOTO MATTER IN RE: NEWS ITEM APPEARED IN EAST MOJO, DATED 05.10.2023 ENTITLED "SIKKIM HERE'S WHY THE CHUNGTHANG HYDRO DAM BREACH IS A BIG DEAL"

...APPLICANT

Versus

THE STATE OF SIKKIM & ORS.

...RESPONDENTS

INDEX

| S. No. | Particulars | Page Nos. |
|-----------|--|-----------|
| 1. | Counter Affidavit on behalf of Respondent No. 3, i.e, Sikkim Urja Limited. | 1 - 12 |
| 2. | <u>Annexure R-1:</u> A copy of the Addendum to TEC issued by Central Electricity Authority dated 14.06.2010. | 13 - 23 |

| | | |
|----|--|---------|
| 3. | <u>Annexure R-2:</u> A copy of the environmental clearance dated 04.08.2006 by Ministry of Environment & Forest, Government of India. | 24 - 28 |
| 4. | <u>Annexure R-3:</u> A copy of the of the Forest Clearance issued by Ministry of Environment & Forest, Government of India dated 02.11.2007. | 29 - 31 |
| 5. | <u>Annexure R-4:</u> A Copy of the Notification of Land Revenue and Disaster Management Department, Govt. of Sikkim dated 04.10.2023 | 32 |
| 6. | <u>Annexure R-5:</u> Copy of the relief activity report for the month of October 2023 of the Answering Respondent. | 33 - 44 |
| 7. | Proof of Service | 45 |

Respondent No. 3

Filed by



VIDHAN VYAS

Place: New Delhi

Dated: 20.05.2024

Advocate (D/1390/2013)

Sikkim Urja Limited (Respondent No. 3)

Address: 1011, 10th Floor, Indraprakash Building,

21 Barakhamba Road, New Delhi-110001

M: 8920685776; Email: vidhan.advocate@gmail.com



**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL
EASTERN ZONE BENCH, KOLKATA
Original Application No. 171/2023/EZ**

In the matter of:

SUO MOTO MATTER IN RE: NEWS ITEM APPEARED IN EAST MOJO, DATED 05.10.2023 ENTITLED "SIKKIM HERE'S WHY THE CHUNGTHANG HYDRO DAM BREACH IS A BIG DEAL"

...APPLICANT

Versus

THE STATE OF SIKKIM & ORS. ... RESPONDENTS

**COUNTER AFFIDAVIT ON BEHALF OF THE
RESPONDENT NO. 3, SIKKIM URJA LIMITED IN TERMS
OF THE ORDER OF THE NATIONAL GREEN TRIBUNAL,
EASTERN ZONE BENCH, KOLKATA.**

I, Satyan Sood, son of Late Kuldip Chand Sood, aged about 47 years, by faith Hindu, by occupation – Service, working for gain at Sikkim Urja Limited, do hereby solemnly affirm and state as follows:

1. I am the Executive Director (Projects & Contracts) of Sikkim Urja Limited (formerly: Teesta Urja Limited) and the authorised signatory of the Respondent No. 3 herein (hereinafter referred to as the "Answering Respondent")





am acquainted with the facts and circumstances of the case, and I am competent to affirm this affidavit on behalf of the Answering Respondent.

2. That I affirm this Affidavit in terms of the directions passed by the Hon'ble National Green Tribunal, Eastern Zone Bench, Kolkata.
3. That nothing contained in this Affidavit shall be construed as admission of any statement unless specifically admitted by me. I reserve the right to deal with legal position on the matter at the time of hearing.
4. That this Hon'ble Tribunal was pleased to take suo moto action in relation to the heavy flooding in Teesta River leading to life and property damage.
5. That the Answering Respondent is a Govt. of Sikkim Enterprises and has executed and commissioned 1200 MW Teesta III Hydro Electric Project in Sikkim ("Project") on the Teesta river (hereinafter referred to as "River") comprising six units of 200 MW each situated in Chungthang, Sikkim. The Commercial Operation Date of the Project was achieved in respect of Unit # 2, Unit # 3 and Unit # 4 on 23.02.2017 and of Unit # 1, Unit # 5 and Unit # 6 on 28.02.2017. Thus, at the time of the flash flood, the dam and power station were in successful operation for close to seven years.
6. It is respectfully submitted that the 1200 MW Teesta III HE Project has been constructed exactly in accordance with the





concurrence accorded by Central Electricity Agency ("CEA") in its Techno Economic Concurrent (TEC) and addendums thereto which demonstrates that the construction of the Project was undertaken as per the technical standards as stipulated by CEA.

A copy of the Addendum to TEC issued by Central Electricity Authority dated 14.06.2010 has been annexed herewith and marked as **Annexure R-1**.

7. That further, the construction of the Project was undertaken only after getting all required clearances from different governing bodies viz. A copy of the environmental clearance dated 04.08.2006 by Ministry of Environment & Forest, Government of India is annexed herewith as **Annexure R-2**. A copy of the of the Forest Clearance issued by Ministry of Environment & Forest, Government of India dated 02.11.2007 is annexed herewith and marked as **Annexure R-3**.
8. That NHPC Ltd., a reputed and nationally recognised organisation in Hydro-Power Sector was appointed by the Answering Respondent as the Project Management Consultant for the project. Further, NHPC Ltd. was also the consultant appointed by SUL to conduct the Performance Tests of the Project as per applicable Grid Code standards. Notably, Initial Performance Tests of the Projects were conducted from 14.02.2017 to 18.02.2017 in the presence of Independent Engineer, NHPC, Ltd. which was also witnessed by the representatives of the end





beneficiaries/concerned DISCOMs being Rajasthan, Punjab and Uttar Pradesh in regard to the Project.

9. In furtherance of the above, the adherence to qualitative standards by the Project is clearly seen in its successful operation for more than six (6) years subsequent to achieving Commercial Operation Date. In this regard, the Answering Respondent humbly submits as under:

- i. That the Project was conceived upon consideration of detailed study of hydrological data of more than 30 years which makes the Project one of the most well investigated projects having hydrological data upto 2004-2005 at the time of TEC.
- ii. That the Project has achieved 15% generation over and above the approved Design Energy (during peak time). Summary of past few years generation is tabulated below:

| Financial year | Design Energy (MU) | Actual Generation (MU) | Actual Generation to Design Energy (%) |
|----------------|--------------------|------------------------|--|
| FY 2019-20 | 5,214 | 6,041 | 116% |
| FY 2020-21 | 5,214 | 6,044 | 116% |
| FY 2021-22 | 5,214 | 6,316 | 121% |
| FY 2022-23 | 5,214 | 6,154 | 118% |
| FY 2023-24* | 3,750 | 4,298 | 115% |

*Design Energy (for Apr-Sep) and actual generation from Apr 2023 to Sept 2023





- iii. It is also apposite to state that the Project has successfully met the peaking power requirements of the long-term beneficiary States in terms of and subsequent to the operationalisation of the respective Power Sale Agreements.
- iv. The aforesaid aspects have been considered by the Ld. Central Electricity Regulatory Commission while issuing its Order dated 09.01.2020 in Petition No. 249/GT/2016 and *inter alia* determining the tariff for the Answering Respondent's Project.

In view thereof, it is humbly submitted that that the subject project is one of the most well investigated projects that has exercised all prudent utility practices during construction and the same have been substantiated through the years by its par excellence performance in generation and operation.

10. That on the intervening night of 3rd and 4th October 2023, between 00:55 hrs to 01:00 hrs of 04-10-2023, an unprecedented flash flood containing humungous river debris and big sized boulders washed away all the seven major bridges in the upstream of the Teesta III Dam along with huge cache of explosive stored at Munshithang storage depot of Army. Such flood struck Teesta-III HEP dam at Chungthang resulting in the rise of water level immediately above the Dam top of 1590 m, up to EL ("elevation) of 1598m i.e, 8 m above the Dam Top. It is pertinent to state





that the status of Dam Gates at the time of flood hitting the Dam was as under:

- i. Spillway Tunnel No. 1 Gates (ST-1) – 100% open
- ii. Spillway Tunnel No. 2 Gates (ST-2) – 50% open
- iii. Both Chute Spillway Gates (Chute) – 50% open
- iv. Right Bank Flushing Tunnel Gates (RBFT) – 50% open

11. That as per the report of North Eastern Space Application Centre, Department of Space, Government of India (“NESAC”) which was shared to the Answering Respondent by the Government of Sikkim, the region wherein the project is situated, received very heavy rainfall and it is submitted that such unusual heavy rainfall has resulted in rapid downstream flow of the Teesta River in unprecedented volume and thus breaching the dam wall of the project. It is pertinent to state here that the Project of the Answering Respondent was first in line of impact of the floods and thus took the brunt of the force. Thereby, reducing the impact to other dam sites located downstream.

12. That due to such unprecedented events at middle of the night, the actual timing of the Dam breach and washing away is not known as there was a complete blackout at the Dam Site just after the flood hit the dam body.



13. That the Land Revenue and Disaster Management Department, Govt. of Sikkim notified the that the cloud burst induced water surge around south Lhonak area led to flash floods in low lying areas of Teesta basin causing such





unprecedented rise of water level with very high velocities in the downstream in the state of Sikkim and West Bengal. A Copy of the Notification of Land Revenue and Disaster Management Department, Govt. of Sikkim dated 04.10.2023 in this regard is attached herewith and annexed as **Annexure R-4**.

14. That immediately after the flash flood, the Answering Respondent took the following steps being:

- i. Local Employees of the Answering Respondent along with the Fire Police and Army personnel carried out search operation around the Lachung axis of the Dam's Access Tunnel.
- ii. Two persons (Bhim Singh and Mahendra Singh) were rescued from the Dam site by Indo-Tibet Border Police ("ITBP") along-with 04 Nos Army Personnel, Fire Department (Chungthang) and Employees of the Teesta-III employees. Both the persons were under trauma & were shifted for medical treatment at nearby hospital.
- iii. The Project Employees along with fire police reached control room areas and dug around accessible area of the access tunnel from the control room as part of the search operation.
- iv. ITBP & State Disaster Relief Force ("SDRF") started search operation at Dam Complex from 07th of October 2023. It is pertinent to submit here that there was consistent hostile weather (incessant rainfall)



~~X~~

from the date of incident till 6th Oct'23, thus creating hinderance for rescue operation.

- v. Answering Respondent also hired a helicopter which was put in operation w.e.f. 7.10.2023 and started relief & rescue operation focusing mainly in Chungthang, where rescue & relief activities like evacuation of the patients, supply of food, cloths & other essential commodities, etc. could carry out effectively till 21.10.2023.
- vi. On further search operation on 9.10.2023 by SDRF & ITBP, 1 More Dead Body was recovered from the Aeration Tunnel of the Dam which was later identified as Mr. Tika Ram Pradhan (SIS Security Guard).
- vii. A team of Answering Respondent also visited all the police stations downstream of the Project Area including Singtam police Station, Sikkim to look around & identify the bodies recovered.
- viii. The Answering Respondent supported the administration & SDRF in identification of alternative routes to various affected places mainly being route to Chungthang
- ix. The foot track & small vehicular road via Dzongu & project Adit-V location was verified and suggested to SDRF for rescue of the stranded workers & tourist.
- x. Further, to make the relief activities more effective, the Answering Respondent financed and deputed an



~~9~~

NGO for providing medical support and distribution of essential food items to the affected villages through foot bridges & zip lines on behalf the Company.

- xi. People affected by the floods were returned to their houses from the relief camps and the Answering Respondent supported the villagers by supplying laborers (70 nos.) for clearance of debris from their houses since 12th Oct 2023. The same continued till 31.12.2023 supported by the Answering Respondent.
- xii. Further, to expedite the cleaning of deposited debris, the Answering Respondent has procured water pumps & generators also to clean the houses. Copy of the relief activity report for the month of October 2023 of the Answering Respondent is annexed herewith and marked as **Annexure R-5**.

15. That, due to the unprecedented flash flood on the intervening night of 3rd and 4th October 2023 and upon the site visit and preliminary report, the damages to Teesta III dam are :

- i. Concrete Faced Rockfill Dam is washed out.
- ii. Gates of Spillway Tunnel -01 have been washed away.
- iii. Chute spillway and Gates (2 No) are damaged beyond repair. Both the gates have been washed away.





- iv. Gates of Spillway Tunnel -02 is heavily damaged and is beyond repair.
- v. Gates of Flushing tunnel have been washed away.
- vi. Cut-off wall at the upstream of CFRD is damaged beyond repair.
- vii. Inlet, Outlet structures of Spillway Tunnel -01 & 02, Flushing Tunnel are damaged.
- viii. Trash rack of power intake have been damaged beyond repair & part of the trash rack have been washed away.
- ix. Trash rack cleaning machine of power intake have been washed away.
- x. Power intake tunnel have been damaged.
- xi. Debris entered into Water conducting system and might cause damages to HRT and desilting chamber.
- xii. Power house flooded by river water upto 2 metre above the machine hall floor. Later it got drained till 1 meter above MIV floor. Silt deposition in Main access tunnel, cable access tunnel of about 2-4 feet height and about 2-3 feet in machine hall & generator floor and silt laden water seen in MIV floor.
- xiii. RCC bridge connecting underground powerhouse has been washed out. 400 KV XLPE cables, 11Kv cables and control cables got snapped and damaged/washed away. Firefighting pipes washed away.





- xiv. Tail race tunnel is completely blocked with river bed materials and is about 10m below the river bed level.
- xv. Dam site colony have been completely washed out.
- xvi. 1.1 MW Dam Toe power station is completely washed out.
- xvii. Environmental flow arrangement installed at Dam have been completely washed away.

The foregoing paras have evinced that the Project faced the maximum brunt of damage due to the unprecedented flash floods.

16. It is humbly submitted that, since the incident, the Project's operation has completely stopped, and no revenue has been generated. Furthermore, the available funds in the Project Account are currently under the full control of the lenders of the Answering Respondent and thus, the company is struggling for spending its own money for day-to-day activities. Despite such, the Answering Respondent is endeavouring to support the affected people in the Project area in consultation with district administration and Govt. of Sikkim, with a scheme of financial assistance, budget for which is under review of the lenders of the Answering Respondent.

17. That the Answering Respondent has taken all necessary steps with respect to rescue and rehabilitation of the employees at the Dam and also to reduce/remove the effects of such calamity in the state. However, due to the

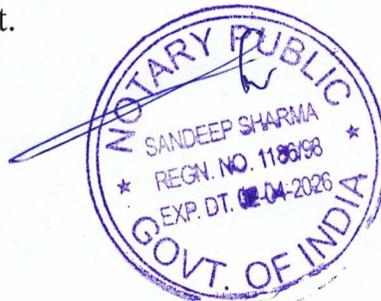


12

unprecedented magnitude of the destruction from the flood, the work is still in progress.

18. It is humbly submitted that the instant reply is limited to the actions taken by the Answering Respondent with respect to the unprecedented incident and its after effects. The Answering Respondent craves leave to file further additional affidavit if so allowed and/or directed by the Hon'ble Tribunal towards any information/data as sought by this Hon'ble Tribunal during the course of hearing of the captioned Original Application.

19. That the statements made in paragraph no. 1 is true to my knowledge, those made in paragraph no. 2 to 19 are information derived from records which I believe to be true and the rest are my respectful submissions before this Hon'ble Court.



VERIFICATION



DEPONENT

Verified at Delhi by the Deponent above named on this the 18th day of May 2024 and I do hereby verify that all the facts as mentioned in the affidavit are true to my knowledge and no part thereof is false and nothing material has been concealed therefrom.

Identified by me.

BEFORE ME

[Signature]
SANDEEP SHARMA
Advocate & Notary
Reg. No. 1186/98/Govt. of India
505, New Lawyer's Chamber Block,
Patiala House Court Complex,
New Delhi-110001



DEPONENT

18 MAY 2024

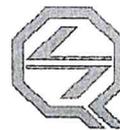


Addendum to TEC Teesta

ANNEXURE R-1



भारत सरकार/Government of India
 केंद्रीय विद्युत प्राधिकरण/ Central Electricity Authority
 कार्यालय सचिव/Office of Secretary
 पी ए सी भिन्देशालय/ PAC Directorate
 सेवा भवन/Sewa Bhavan
 आर.के.पुरम/ R.K. Puram
 नई दिल्ली/ New Delhi - 110606



[आई.एस.ओ. : 9001-2008]

No.2/SKM/11/05-CEA/PAC/ 188-214

Dated

14th June, 2010

OFFICE MEMORANDUM

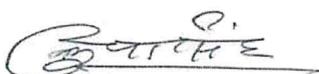
Subject: Addendum to CEA O.M. no. 2/SKM/11/05-CEA /PAC/751-75 dated 12th May 2006 according concurrence of CEA to Teesta Stage III H.E. Project (6x200 = 1200 MW) in Sikkim being executed by M/s Teesta Urja Limited (M/s. TUL) at an Estimated Completed Cost of Rs. 5705.55 Crores including IDC & FC of Rs. 603.73 Crores

The proposal for establishment of Teesta Stage III Hydro Electric Project (6x200=1200 MW) in North District of Sikkim proposed by M/s. Teesta Urja Limited (M/s.TUL). was considered in the 279th meeting of CEA held on 5.5.2006 at Sewa Bhawan, R.K. Puram, New Delhi-110066 based on the Agenda note circulated vide CEA O.M. No.3/106/279th/2006-PAC/953-77 dated 4.5.2006 and concurrence was given vide CEA O.M. No. 2/SKM/11/05-CEA /PAC/751-75 dated 12th May 2006.

During the visit of CEA officers to project site in connection with monitoring of on-going projects, certain variations in respect of designs/construction features of spillway arrangement and desilting arrangement were observed from the features concurred by CEA. Subsequently, vide CEA letter No. 2/Sikkim/11/05-CEA/PAC/194-97, dated 22.01.2009, these deviations were communicated to M/s. TUL. The deviations referred in the letter mainly pertained to change in the spillway arrangement and design of desilting chambers. M/s. TUL were requested to furnish the justifications for making these changes which, otherwise, would affect the safety of dam and operating availability of the machines. M/s. TUL submitted justifications and changes in designs to facilitate pass 7000 cumes of flood discharge. M/S. TUL also carried out following changes in other parameters of the project:-

- Changes in no. and size of pressure shafts
- Change in elevation of unit centre line and change of tail race outlet point
- Change in Design head of the scheme and Design Energy

M/s. TUL informed that newly found geological information in the spillway foundation area forced TUL to go for change in spillway designs. After a series of meetings and correspondence, the proposal submitted by M/s. TUL vide letter No. TUL/CEA/MD/90813, dated 13.08.2009 was considered in the Authority meeting no. 03/2010 held on 19.5.2010 and suggested changes as follows were accepted:-


11.6.10



TRUE COPY


17/6

KS

The above changes in design parameters in respect of desilting chambers and pressure shafts have been considered subject to the conditions given in Annex.-II

III. Lowering of Centreline of Turbine:

In order to save mela ground that exists between elevation 755m and 757m, Govt of Sikkim advised to lower down the FRL of Teesta IV to 755m. As a result, the untapped head between Teesta III & Teesta IV has been proposed to be utilized for Teesta III by lowering down the power houses and eventually the centreline of turbine from 780m proposed in DPR/concurrence letter to 768m as follows:

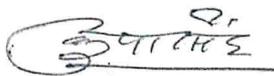
| | | |
|--------|---|------------|
| (I) | FRL of Teesta-IV | 755m |
| (II) | In respect of Teesta -III | |
| | Invert level of TRT at its outfall | 755m |
| | Invert level in the main TRT at the junction of last unit TRT | 756m |
| | Water level in the main TRT at the junction of last unit TRT | 762m |
| | Highest water level in the unit TRT/turbine pits | 762.85m |
| | Vertical clearance between W/L in turbine pit and turbine C/L | 5m |
| | Turbine centreline level | 767.85m |
| | | (say 768m) |

IV Changes in Design Head and Design Energy

As a result of lowering of centerline of turbines, there is an increase in the head by 8m and Design Energy by 31 MU as given below:

| Concurrence stage | Due to proposed changes |
|---|---|
| Machine Center line = 780 m | Machine Center line = 768 m |
| Rated Net Head = 778 m | Increase in head due to lowering of machine centre line = 12 m Decrease in head loss due to number and size of pressure shafts = 4m Net increase = 8m Rated net Head = 786 m |
| Design energy (90% dependable year and 95% machine availability) = 5183 MU | Design energy (90% dependable year and 95% machine availability) = 5214 MU Increase in design energy = 31 MU |

The revised salient features at Annex.III supersede Annex. 5 of the concurrence letter issued on 12.05.2006.M/s TUL have projected an increase in cost due to above changes. The same has been examined in CEA/CWC and total increase in hard cost due to changes at July 2005 PL is Rs. 73.49 crores and corresponding increase in completion cost is Rs. 92.64 crores. Since the changes proposed by M/s. TUL have been necessitated because of further investigations carried out by them, as per para 4(iii) of concurrence letter, the cost for changes required subsequent to investigations shall be absorbed by M/s. TUL. As such, total cost

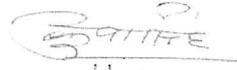

 11.6.10


TRUE COPY

16

mentioned in concurrence letter dated 12.05.2006 remains the same. All other terms & conditions of concurrence remain the same.

Encls: Annex. I, II and III


11.6.10
(K.P. Singh)
Secretary, CEA

1. Managing Director, M/s Teesta Urja Ltd, 119, Jor Bagh, New Delhi – 110003.
2. Secretary (Energy & Power), Government of Sikkim, Power Department, Kazi Road, Gangtok - 737101
3. Secretary, Ministry of Power, Govt. of India, Shram Shakti Bhawan, New Delhi –110001.
4. Secretary, Ministry of Environment & Forests, Government of India, Paryavaran Bhawan, Lodhi Road, New Delhi – 110003.
5. Chairman, Central Electricity Regulatory Commission, Core-3, 5th Floor, Scope Complex, 7 Institutional Area, Lodhi Road, New Delhi -110003.
6. Chairperson, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi – 110066
7. Chairman, Central Water Commission, Sewa Bhawan, R.K. Puram, New Delhi – 110066.
8. Chairman & Managing Director, Power Grid Corporation of India Limited, 'Saudamini' Plot No. 2, Sector – 29, Gurgaon – 122001.
9. Member(D&R), Central Water Commission, Sewa Bhawan, R.K. Puram, New Delhi - 110066.
10. Member (Hydro / Planning / Thermal / Grid Operation & Distribution / Economic & Commercial / Power System), CEA, Sewa Bhawan, R.K. Puram, New Delhi – 110066.
11. Adviser (Energy), Planning Commission, Yojana Bhawan, New Delhi – 110001
12. Joint Secretary (Hydro), Ministry of Power, Shram Shakti Bhawan, New Delhi-110001.
13. Chief Engineer (HPA/ SP&PA/ F&CA/ TCD/ Legal/ HPM / IRP/ LD&T), CEA, Sewa Bhawan, R.K. Puram, New Delhi – 110066.
14. Chief Engineer (PAO), CWC, Sewa Bhawan, R.K. Puram, New Delhi – 110066.
15. Director(LHIM&EPE Div.), Geological Survey of India, A-II, Pushpa Bhawan, Madangir Road, New Delhi – 110062.


TRUE COPY

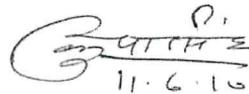


-5-

Annex-I**Conditions for changes in spillway arrangement of Teesta-III**

- i) Model studies shall be undertaken to verify the designed discharging capacity of the spillway arrangement both under normal conditions and under one gate inoperative condition. The spillways should be able to pass the PMF of 7000 cumecs under one gate inoperative condition.
- ii) The left bank chute spillway shall have a minimum discharging capacity of 3500 cumecs under normal operating conditions.
- iii) The tunnels should be capable to discharging their designed flood capacity under 30% free condition i.e. only 70% of the tunnel area should be used for discharging the flood. This is intended to avoid air locking and development of negative pressures.
- iv) Adequate aeration arrangements shall be provided in the tunnels to preclude air locking and cavitation. The adequacy of the proposed aeration arrangement shall be studied during model studies.
- v) The end cutoff of the chute spillway shall be taken into the rock to provide positive cutoff, with a view to prevent the displacement of overburden material underneath the chute slab from scour action. The scour pattern of the jet issuing from the bucket shall be studied in the model and based on that study, the length of the positive cutoff along the sides of the chute spillway shall be determined and provided with sufficient factor of safety.
- vi) The extents of plunge pool formed shall be studied during the model studies. Suitable measures shall be taken to contain its boundary sufficiently far from the dam boundary.
- vii) Suitable slope stability measures shall be taken to prevent slope failure adjacent to chute spillway and tunnel spillway inlet and outlet structures.
- viii) The efficacy of the sediment flushing tunnel shall be studied in the model and necessary modification, if required, based on that shall be incorporated in the tunnel design.
- ix) A minimum of two flushing shall be undertaken in a year. One at the onset of the monsoon and another when the monsoon is receding. The reservoir water level during the monsoon period shall be maintained at MDDL (Minimum Drawdown Level).
- x) High Performance Concrete shall be used in the tunnel linings.
- xi) A copy of each of the construction drawings of dam and spillway released for construction along with reports including model test reports shall be submitted to CEA/CWC for record purposes.

No structural design has been examined during the examination stage. The project authorities shall evolve suitable structural design based on standard numerical methods, practices and codes.


11.6.16


TRUE COPY

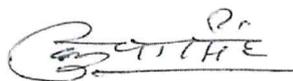
19

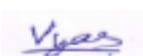
-7-

Annex - III

**TEESTA STAGE-III HYDRO-ELECTRIC PROJECT(6x200 MW) -SIKKIM
(M/s TEESTA URJA LTD.)
SALIENT FEATURES**

| S.No | Description | As per concurrence (May,06) | Changes proposed by TUL and as vetted by CEA/CWC (as on Aug. ,09) | Remarks |
|------|-------------------------------|--|--|-----------|
| 1 | Location | | | |
| | State | Sikkim | | unchanged |
| | District | North District | | unchanged |
| | River | Teesta | | unchanged |
| | Dam site | 400 m downstream of the confluence of Lachenchu and Lachungchu near village Chungthang | | unchanged |
| | Power house site | 800m upstream of confluence of river Teesta and Talungchu near village Sanklan | | unchanged |
| 2. | Reservoir | | | |
| | F.R.L. | 1585 m | | unchanged |
| | M.D.D.L. | 1565 m | | unchanged |
| | Gross Capacity (1530-1585) | 508 Ha.m. | | unchanged |
| | Live storage (1565m-1585m) | 333 Ha.m | | unchanged |
| 3. | Dam | | | |
| | Type | Concrete Face Rock Fill Dam (CFRD)/Concrete Dam with Chute Spillway | Concrete Face Rock Fill Dam | |


 11.6.10


TRUE COPY

20

| | | | | |
|----|--|---|--|---|
| | River bed level | 1530m | | unchanged |
| | Top level of Dam | 1590 | | unchanged |
| | Maximum height (from the deepest riverbed level) | 60 m | | unchanged |
| | Top width of dam | 10 m | | unchanged |
| | Total length of dam at top | 273m | 234 m | |
| | Length of CFRD | 170m | 234 m | |
| | Length of Concrete Dam | 60 m | | |
| 4. | Spillways | | | |
| | | Design flood 7000 cumecs (PMF) | Design flood 7000 cumecs (PMF) | unchanged |
| | | <p>1. Breast wall type chute spillway (right bank) - Crest level - 1545 m - 4 radial gates of (6mX10.25m) size</p> <p>2. Open crest ogee type control structure connected to diversion tunnel through a goose neck - Crest level - 1573m. - 2 no. gates of 10m x 12m (radial)</p> | <p>1. Diversion cum spillway tunnel (left bank) - Crest level - 1555m - 2nos 8m (W)X5.7m(H) radial gates.</p> <p>2. Chute Spillway (left bank) - Crest level - 1569 m - 2 nos. of 10m(W) x 16m(H) radial gates .</p> <p>3. Surface cum Tunnel Spillway (left bank) - Crest level - 1572.00m - 1no. of 11m(W) X 13m (W) radial gate</p> <p>4. Flushing-Cum-Spillway Tunnel (Right Bank) - Crest level - 1540m - 1 no. of 9m(W) X 9.3m (H) radial gate</p> | The chute spillway on the right bank is replaced by the revised arrangement |

20
11.6.10

V. S. S.
TRUE COPY

24

| | | | | |
|----|----------------------------------|------------------|--------------|--|
| 5. | Diversion Tunnel | | | |
| | Number | One on left bank | | unchanged |
| | Size | 9 m dia | 10 m dia | As per tunnel spillway |
| | Length | 660m | 952 m length | Tunnel outlet shifted D/s as required for tunnel spillway |
| | Design discharge | 1028 cumec | | unchanged |
| 6. | Intakes | | | |
| | Number | 3 Nos. | 1 No. | |
| | Sill level of intake | 1554.80 m | 1549 m | |
| | Maximum discharge through intake | 74.40 cumec | 202 cumec | HRT discharge plus 15% for flushing |
| 7. | Desilting Chambers | | | |
| | No. of chambers | 3 nos. | 2 nos. | Design optimization with equivalent bigger size and similar efficiency |
| | Shape | Oval Shaped | Oval Shaped | |
| | Length | 250m | 320 m | |
| | Width | 16 m | 17 m | |
| | Height | 18 m | 23 m | |
| 8. | Head Race Tunnel | | | |
| | Number | One | | unchanged |
| | Type | Circular | | unchanged |

Signature
11.6.10

Signature
TRUE COPY

22

-10-

| | | | | |
|-----|---------------------------------------|-----------------------------------|----------------------|---|
| | Length | 13.325 km | | unchanged |
| | Size | 7.5 m dia | | unchanged |
| | Design discharge | 175 Cumec | | Unchanged |
| 9. | Surge Shaft | | | |
| | Type | Orifice type circular surge shaft | | unchanged |
| | Size | 20 m dia | | unchanged |
| | Height | 121.11 m | | unchanged |
| 10. | Pressure Shaft | | | |
| | Type | Steel lined circular | Steel lined circular | unchanged |
| | Numbers | 3 nos. | 2 nos. | Design optimization with increased size |
| | Size | 3.8 m diameter | 4.0 m diameter | |
| | Length (Horizontal/Vertical/Inclined) | 479.48 m/732 m/0.0 m | | unchanged |
| | Design discharge through each shaft | 58.3 cumecs | 87.50 cumecs | |
| 11. | Power House | | | |
| | Type | Underground | | unchanged |
| | Size of machine- hall Cavern | 220.5 m x 21.5 m x 46 m | | unchanged |
| | Gross head | 805 m to 785 m | 817 m to 797 m | Due to lowering of turbine level |

2011
 11.6.10

TRUE COPY

23

| | | | | |
|------------|-----------------------------------|--|------------------------|------------------------------------|
| | Net head | 778 m | 786 m | |
| | Type of turbine | Pelton wheel type coupled with vertical shaft to generator | | unchanged |
| | Type of generator | Vertical shaft of 200MW, 0.9 power factor 3 phase, 11 KV at 50Hz | | unchanged |
| | Installed Capacity | 1200 MW (6X200 MW) | | unchanged |
| 12. | Tail Race Tunnel | | | |
| | Type | free flow tunnel | | unchanged |
| | Cross Section | 8 m x 8 m (D-Shaped) | 8.2 m x 8 m (D-Shaped) | Adjustment due to increased length |
| | Length | 980 m | 1205 m | Outfall point shifted Downstream |
| 13. | Energy Generation | | | |
| | Annual Energy 90% Dependable Year | 5269 MU | 5311 MU | Due to change of head |
| | Design Energy | 5183 MU | 5214 MU | Due to change of head |
| 14. | Construction Period | | | |
| | Construction Period | 5 years | | unchanged |

Signature
11.6.10

Ver
TRUE COPY



ANNEXURE R-2

No. J-12011/26/2006-IA.I
 Government of India
 Ministry of Environment & Forests

Paryavaran Bhawan,
 C.G.O. Complex, Lodi Road,
 New Delhi-110003

Dated: 4th August, 2006

Sh. Y. N. Apparao,
 M/s Teesta Urja Limited,
 119, Jor Bagh ,
 New Delhi – 110003.

Subject: Teesta Hydroelectric Project Stage-III (1200 MW) In North District, Sikkim – Environmental Clearance reg.

Sir,

This has reference to your letter No. TUL/MoEF/060817, dated 17.06.2005 and subsequent letters No.TUL-VII/MoEF/060714, TUL/MoEF/060714, TUL/ MoEF/060719 dated 14.07.2006 & 19.07.2006 respectively on the subject.

2. The above referred proposal was considered by the Expert Committee for River Valley & Hydroelectric projects at its meeting held on 28.06.2006 & reconsidered on 19.07.2006.

3. The Teesta Hydroelectric Project (1200 MW) envisages construction of a concrete face rock fill dam of 60m height across Teesta river at about 400m downstream of confluence of river Lachen chu and Lachung chu near village Chungthang and the underground power house at 800m upstream of confluence of the river Teesta and Talung chu near village Sanklan, North Sikkim district, Sikkim. Total land requirement is 196.967 ha. Out of which 80.288 ha. is forest land. Forest Clearance is yet to be obtained. No human population will be displaced. However, 156 families are likely to lose their land partially in nine project affected villages. R&R package has been prepared based on NPRR-2003. Public hearing was held on 8th June, 2006. The estimated cost of the project is Rs. 5705.55 crores.



4. The Environmental Management Plan submitted by M/s Teesta Urja Limited has been examined. The Ministry of Environment and Forests hereby accords environmental clearance as per the provisions of Environmental Impact Assessment Notification, 1994, subject to strict compliance of the terms and conditions as follows:

Part A: Specific Conditions

i) 1953.3 ha. degraded catchment area needs to be treated. The Catchment Area Treatment Plan as has been proposed should be completed in four years. The plan is reproduced below:

| Treatment Measures | Units | Year -I | Year --II | Year-III | Year -IV |
|---------------------------------|----------------|---------|-----------|----------|----------|
| Afforestation | ha. | 263 | 263 | 113 | 113 |
| Plantation (Medicinal / bamboo) | ha. | 145 | 145 | 63 | 63 |
| Pasture Development | ha. | 188 | 188 | 81 | 81 |
| Social Forestry | ha. | 14 | 14 | 6 | 6 |
| Fuel wood and fodder grass | ha. | 56 | 56 | 24 | 24 |
| Nursery development | No. | 4 | 4 | 2 | - |
| Barbed wire fencing | Km | 3 | 3 | 2 | 2 |
| Step drain / catch water drains | m | 175 | 175 | 75 | 75 |
| 1:2:4 Stone masonry | m ³ | 25 | 25 | 13 | 12 |
| Contour bunding | ha. | 17 | 17 | 8 | 7 |

ii) Considering the landslide prone areas, the tunneling should be done, with great care under close supervision.

iii) Clearance from National Committee of Seismic Design Parameters (NCSDP) of CWC should be obtained.

iv) Total 156 families from nine villages will be affected due to acquisition of land & affected families should be rehabilitated as per NPRR-2003.

v) A monitoring committee should be constituted which must include representatives of project affected persons from SC/ST category and a women beneficiary.

vi) All the assurances/ commitments given by the project authority in the Public Hearing must be honoured in letter and spirit.

26

- vii) The Khangchendzonga National Park is one km away from the project site. The Wildlife Conservation Plan proposed for protection of Wildlife in protected area on page 10-1 to 10-13 of EMP, should be followed in toto.
- viii) Forest Clearance should be obtained for acquiring 80.288 hectare forest land & submitted.
- ix) The implementation of Fish Management Plan including provision of fish ladder should be carried out in consultation with the Fisheries Department, State Government of Sikkim and submitted to MOEF within three months from date of issue of this letter.
- x) During the lean season minimum 3 cumecs water should be released downstream of the dam for sustenance of aquatic life.
- xi) Any other clearance from any other organization if required should be obtained.

Part-B: General Conditions

- (i) Adequate free fuel arrangement should be made for the labour force engaged in the construction work at project cost so that indiscriminate felling of trees is prevented.
- (ii) Fuel depot may be opened at the site to provide the fuel (kerosene/wood/LPG). Medical facilities as well as recreational facilities should also be provided to the labourers.
- (iii) All the labourers to be engaged for construction works should be thoroughly examined by health personnel and adequately treated before issuing them work permit.
- (iv) Restoration of construction area including dumping site of excavated materials should be ensured by leveling, filling up of burrow pits, landscaping etc. The area should be properly treated with suitable plantation.
- (v) Financial provision should be made in the total budget of the project for implementation of the above suggested safeguard measures.
- vi) A Monitoring Committee for R & R should be constituted which must include representatives of project-affected persons from a woman beneficiary.


TRUE COPY



- vii) A Multidisciplinary committee should be constituted with representatives from various disciplines of forestry, ecology, wildlife, soil conservation, NGO etc. to oversee the effective implementation of the suggested safeguard measures.
- viii) Six monthly monitoring reports should be submitted to the Ministry and its Regional Office, Shillong for review.
4. Officials from Regional Office MOEF, Shillong who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents / data by the project proponents during their inspection.
5. The responsibility of implementation of environmental safeguards rests fully with the M/s Teesta Urja Limited & Government of Sikkim.
6. In case of change in the scope of the project, project would require a fresh appraisal.
7. The Ministry reserves the right to add additional safeguard measures subsequently, if found necessary and to take action including revoking of the clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time-bound and satisfactory manner.
8. This clearance letter is valid for a period of five years from the date of issue of this letter for commencement of construction work.
9. A copy of the clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom any suggestion/ representation has been received while processing the proposal.
10. State Pollution Control Board / Committee should display a copy of the clearance letter at the Regional Office, District Industries Center and Collector's office/ Tehsildar's office for 30 days.
11. The project proponent should advertise within seven days from the date


TRUE COPY



of issue of the clearance letter, at least in two local newspapers widely circulated in the region around the project, one of which shall be in the vernacular language of the locality concerned informing that the project has been accorded environmental clearance and copies of clearance letters are available with the State Pollution Control Board / Committee and may also be seen at Website of the Ministry of Environment and Forests at <http://www.envfor.nic.in>

(Dr. S. Bhowmik)

Additional Director

Copy to:

1. The Secretary, Ministry of Power, Shram Shakti, Bhawan, Rafi Marg, New Delhi-110001.
2. Principal Chief Engineer cum Secretary, Energy & Power department, Government of Sikkim, Gangtok, Sikkim- 737102
3. The Secretary, Department of Forest, Environment & Wildlife Management, Deorali – Gangtok-737102..
4. The Secretary, Ministry of Water Resources, Shram Shakti Bhawan, Rafi Marg, New Delhi-110001.
5. The Adviser (Power), Planning Commission, Yojna Bhawan, New Delhi - 110001.
6. The Chief Engineer, Project Appraisal Directorate, Central Electricity Authority, Sewa Bhawan, R.K. Puram, New Delhi-110066.
7. Chief Conservator of Forests, Ministry of Environment & Forests, Regional Office Sillong, Sikkim.
8. Member Secretary, State Pollution Control Board, Sikkim, Department of Forest, Environment & Wildlife Management, Deorali – Gangtok-737102.
9. EI- Division, Ministry of Environment & Forests, New Delhi-110003.
10. Guard file.

(Dr. S. Bhowmik)

Additional Director

TRUE COPY



F.No.8-142/2006-FC
Government of India
Ministry of Environment & Forests
(FC Division)

ANNEXURE R-3

Paryavaran Bhawan, CGO Complex,
Lodhi Road, New Delhi-110 003
Dated: 2nd November, 2007

To,

The Principal Secretary (Forests)
Government of Sikkim
Gangtok, Sikkim

Sub: Diversion of 83.0405 ha of forest land (68.3130 ha surface forest area and 14.7275 ha underground forest area) for construction of 1200 MW Teesta Stage-III Hydro Electric Project by M/s Teesta Urja Limited in North District of Sikkim

Sir,

I am directed to refer to your Letter no. 1096 (1070)/FCA/FEWMD dated 13.12.2006 on the above mentioned subject, wherein prior approval of the Central Government for the diversion of 83.0405 ha of forest land (68.3130 ha surface forest area and 14.7275 ha underground forest area) for construction of 1200 MW Teesta Stage-III Hydro Electric Project by M/s Teesta Urja Limited in North District of Sikkim, was sought, in accordance with Section 2 of the Forest (Conservation) Act, 1980. The said proposal has been examined by the Forest Advisory Committee constituted by the Central Government under Section 3 of the aforesaid Act.

2. After careful consideration of the proposal of the State Government of Sikkim and on the basis of the recommendations of the Forest Advisory Committee, the Central Government granted in principle approval to the said proposal vide letter of even no dated 12-Oct 2007, subject to certain conditions. The compliance of these conditions was submitted by Nodal Officer cum Chief Conservator of Forests, Sikkim, vide letters No. 786(1070) dated 18.10.2007 and 801(1070) dated 24.10.2007. After consideration of the proposal and compliance of various conditions by the State Government, the Central Government hereby conveys its approval under Section 2 of the Forest (Conservation) Act, 1980 for the diversion of 83.0405 ha forest land (68.3130 ha surface forest area and 14.7275 ha underground forest area) for construction of 1200 MW Teesta Stage-III Hydro Electric Project in favour of M/s Teesta Urja Limited in North District of Sikkim, subject to the fulfilment of the following conditions.

1. Legal Status of the Forest land shall remain unchanged.
2. Compensatory Afforestation shall be raised and maintained over double the degraded forest land at the cost of the User Agency.
3. The State Government shall charge the Net Present Value of the forest area diverted under this proposal from the User Agency as per the orders of the Hon'ble Supreme Court of India dated 30.10.2002 and 01.05.2003 in LA No. 566 in WP (C) No. 202/1995 and as per the guidelines issued by this Ministry vide letters No. 5-1/1998-FC (Pt. II) dated 18.09.2003, as well as letter No. 5-2/2006-FC dated 03.10.2006 in this regard.
4. Additional amount of the NPV of the diverted forest land, if any, becoming due after finalisation of the same by the Hon'ble Supreme Court of India on receipt of the report from the Expert Committee, shall be charged by the State Government from the User Agency. The User Agency shall furnish an undertaking to this effect.
5. All the above funds received from the User Agency under the project shall be transferred to the CAMPA Fund (CAF) in Account No. 344901010070128 of the Union Bank of India, Sunder Nagar Branch, New Delhi 110 003.
6. The entire reservoir created due to submergence shall be declared as Reserved Forests under the Indian Forest Act, 1927. However, regulated fishing shall be allowed.
7. Dumping area for muck disposal should be properly stabilized and reclaimed and plantation should be done over such sites by the User Agency before the project is closed.


TRUE COPY

30

8. The User Agency shall transfer the cost of Catchment Area Treatment Plan (revised as on date incorporating the exiting wage structure) to the State Forest Department. Catchment Area Treatment (CAT) Plan should be implemented at the project cost.
9. The project area shall be demarcated on ground at the project cost, using four feet high RCC Pillars, with each pillar inscribed with the serial number, forward and backward bearings and distance between two adjacent pillars.
10. While constructing approach roads, sufficient safety measures should be adopted to avoid rolling down of muck/debris along the slope and damage to forest area should be avoided.
11. All conditions stipulated at the time of grant of Environmental Clearance shall be complied with by the User Agency. As per the Environmental Clearance order during the lean season a minimum of 3 cumecs water shall be released downstream of the dam for the sustenance of aquatic life.
12. The Reclamation Plan including muck management plan, Restoration and Reclamation Plan, Green Belt Development Plan shall be implemented at the cost of the User Agency
13. Any tree felling shall be done only when it is unavoidable and under strict supervision of the State Forest Department.
14. Planting of native tree species shall be undertaken on vacant land along the reservoirs and canals.
15. No tree felling in the area between FRL and FRL-4 m. levels shall be carried out.
16. Water will be provided free of cost to the State Forest Department for raising nursery/plantations in nearby areas.
17. No labour camps shall be set up inside the forest area. The User Agency shall provide fuel wood preferably alternate fuel to the laborers and the staff working at the site.
18. No damage to the flora and fauna of the area shall be caused. The forest land shall not be used for any purpose other than that specified in the proposal.
19. All efforts should be made by the User Agency for the protection of the environment and to avoid any damage to the Wild life found in the area. Steps may be taken to minimize biotic pressure over adjoining/near by forests.
20. All the components of the Environment Management Plan (EMP) shall be implemented by the User Agency in co-ordination with the different agencies of the State Government.
21. The Forest land thus diverted shall be non-transferable. Whenever and whatever extent of forest land is not required by the User Agency, it shall be surrendered to the State Forest Department after proper rehabilitation, under intimation to this Ministry.
22. All other conditions that the CCF, North East Regional Office, Shillong may impose from time to time for the protection and improvement of the flora and fauna in the forest area shall also be applicable.

The State Government shall ensure compliance of all the above conditions.

Yours faithfully

(A. K. Joshi)

Assistant Inspector General of Forests

Copy to:

1. The Principal Chief Conservator of Forests, Government of Sikkim, Gangtok
2. The Nodal Officer, Forest Department, Government of Sikkim, Gangtok
3. The Chief Conservator of Forest, North Eastern Regional Office, Shillong
4. User Agency i.e., M/s Teesta Urja Limited, 119, Jor Bagh, New Delhi.
5. Monitoring Cell, Ministry of Environment and Forests
6. Guard File.

(A. K. Joshi)

Assistant Inspector General of Forests

TRUE COPY



GOVERNMENT OF SIKKIM
OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS-CUM-SECRETARY
DEPARTMENT OF FORESTS, ENVIRONMENT AND WILDLIFE MANAGEMENT
FOREST SECRETARIAT, DEORALI, GANGTOK-737 102 [PH: 281145, 281261 (O), FAX: 03592-281145, 281778]

Memo No. 237 (1070) / FCA/FEWMD

Dated: 15/11/07

To:
 The General Manager
 Teesta Stage-III HEP, Teesta Urja Limited,
 Beside Community Hall, Development Area,
 Gangtok, East District, Sikkim-737 101

Sub: Proposal for diversion of 83.0405 Ha of forest land (68.3130 Ha surface Forest area and 14.7275 Ha underground Forest area) for construction of 1200 MW Teesta Stage-III Hydro Electric Project by M/s Teesta Urja Limited in North District of Sikkim- Final Approval regarding

Sir,

Reference the proposal mentioned in the subject matter. I am directed to convey the final approval accorded by the Ministry of Environment & Forests, Government of India vide letter F. No. 8-142/2006-FC, dated 2nd November, 2007 (a copy of which is enclosed) under Section 2 of the Forest (Conservation) Act, 1980 for diversion of 83.0405 Ha of forest land (68.3130 Ha surface Forest area and 14.7275 Ha underground Forest area) for construction of 1200 MW Teesta Stage-III Hydro Electric Project by M/s Teesta Urja Limited in North District of Sikkim subject to fulfillment and compliance of conditions stipulated in the approval letter.

In this respect, it is to inform that you or your officials may contact Divisional Forest Officer (North), North Territorial Division (Mangan) to take possession of forest land approved to be diverted, duly abiding by the conditions stipulated in the approval letters and completing all the formalities what ever required from their end for handing over and taking over of forest lands before starting the works. A copy of all the handing-taking over documents shall also be forwarded to this office for records. In reference to the conditions stipulated by the Government of India, the User Agency must take the following actions and precautions for proper compliance of stipulated conditions and for protection and conservation of Forest, Environment & Wildlife in the area:

1. All the conditions stipulated by the Government of India in "In Principle" approval & undertakings given in this respect and in Final Approval shall be fulfilled and complied with by the User Agency in time.
2. The project components should be located strictly on the diverted land only.
3. There should be no damage to the flora, fauna and environment of the area except that minimum trees/vegetation required to be removed with the prior approval from the Forests, Environment & Wildlife Management Department for project execution purposes.
4. All measures may be taken to implement the project in an eco-friendly manner.
5. No labour camps shall be established on any forest land diverted or non diverted and the labourers shall be provided with alternative fuel. Under no circumstances they should extract firewood from forest areas.
6. The Divisional Forest Officer (T) concerned shall Monitor the project concurrently and take all measures for conservation & protection of forests, environment & wildlife in the local area of diversion.
7. As per the conditions stipulated in the approval letter, all actions shall be taken with prior approval and in co-ordination with the DFO (T) concerned.
8. The non fulfillment and compliance of the stipulated conditions and any activity on forest land which is not covered by approval from the appropriate authority shall be taken as violation of the Act & be reported by the DFO (T) concerned.

Encl: Copy of Final approval letter.

Yours faithfully,

(S.B.S. Bhaduria)
 CCF-cum-Nodal Officer (FCA)

Department of Forest, Environment & Wildlife Management,
 Government of Sikkim, Gangtok. (PH- 281145)

Dated:

Memo No. /FCA/FEWMD

Copy to:-

- | | |
|-------------------------------------|----------------------------------|
| (1) PCCF-cum-Secretary | : For kind information please. |
| (2) CF (T), Gangtok | : For information & n. a. please |
| (3) DFO (T), North Division, Mangan | : For information & n. a. please |

CCF-cum-Nodal Officer (FCA)
 Department of Forest, Environment & Wildlife Management
 Government of Sikkim, Gangtok. (PH- 281145)

TRUE COPY

32

ANNEXURE R-4



GOVERNMENT OF SIKKIM
 LAND REVENUE & DISASTER MANAGEMENT DEPARTMENT
 PASHILING SECRETARIAT, BLOCK - B, GANGTOK
 Email: ssdma@la@gmail.com, Tel- 03592-201145

Memo No. **399** LR&DM/GoS

Dated: 04/10/2023

NOTIFICATION

Cloud burst induced water surge around Lhonak area led to flash floods in low lying areas of Teesta basin causing rise of water levels with very high velocities downstream within the States of Sikkim and West Bengal in the early hours of 4th October 2023. This has caused extensive damages to life and property including breakdown of road networks and communications. Several important bridges connecting to the forward border areas and within sikkim are washed away due to the above flash floods in Mangan, Gangtok, Pakyong and Namchi Districts of Sikkim.

Hence, with the approval of the Chairman, Sikkim State Disaster Management Authority and as recommended by the State Executive Committee (SEC), 1, Vijay Bhushan Pathak, IAS, in the capacity of Chairman, SEC hereby declare this catastrophe as a Disaster in exercise of the powers conferred vide Section 22(2) (b) of the Disaster Management Act, 2005, (53 of 2005)


 (Vijay Bhushan Pathak) IAS, ^{04/10/2023} Secretaries
 Chief Secretary-cum- Chairman, ^{Secy. of Sikkim}
 Government of Sikkim

File No 2018/SSDMA/LR&DM/GoS/2023


 TRUE COPY



DETAILS OF RESCUE, RELIEF & REHABILITATION ACTIVITIES CARRIED OUT BY SIKKIM URJA LIMITED AFTER THE 4TH OCT 2023 DISASTROUES FLASH FLOOD

The flash flood of the intervening night of 3rd& 4th Oct 2023 has caused extensive damages to Teesta-III HEP including Dam & Power House site. The dam has been washed away upto river bed level involving damages to intake gate, RBFT gate, Spillway Tunnel 1 & 2 gates and Chute spillway gates. The Power House access bridge (MAT bridge) has been completely washed away and through MAT, CAT & TRT huge debris has entered inside the underground Power House leading accumulation of sludge right from MAT, Service bay, generator floor, MIV floor, transformer cavern, battery bank, sub-station area, bus ducts, etc. The flood further deposited huge quantity of sediments at Sangkalang village downstream of Power House, which led to blockage of Tail Race Tunnel (TRT) outlet.

The flood utterly destroyed connectivity in the region with massive swaths of roads, including parts of NH10 the main link between Sikkim and the rest of the country. Due to continuous rainfall from the day of the flooding and complete cut off of mobile network & other communication system, coordination for the rescue & relief activities was badly hampered for another two three days. With the improvement of weather conditions, every efforts was explored to reach out to the affected area & people of the project as well as the people of the affected villages by establishing log bridges and other stable bypass road through other hill of Dzongu area.

With the limited & intermittent available walkie – talkie communication, preliminary assessment of the dam area was done mainly for the missing people from the project site. The people residing in Chungthang village on the left section of the Lachen river were evacuated to Bop village towards Lachung and people from the right section of Lachen river including dam colony area were evacuated towards Pegong village & ITBP camp. Due to continuous high flood upto the level of Chungthang village till next day also, no communication could be established across the river, which further affected search & rescue operation. Project staff available towards Chungthang village were coordinated to carry out search & rescue operation on 4th Oct 2023 with the help of local people by establishing a track from the upstream side of dam across Lachung river from Bop village and they could able to reach upstream portion of dam access tunnel but due to huge deposition of sludge, they could not cross the intake side of the access tunnel. Similarly, with the support from Fire & Emergency Department, the project staff could reach the damaged control room area and carried out search operation on 5th Oct 2023.

SEARCH OPERATION

The details of search & rescue operation carried out the people of Teesta-III project is summarized as below.


TRUE COPY

34

| Date | Particulars | Involved | Remarks |
|-----------|---|--|--|
| 04-Oct-23 | Local Employees of the Company along with the Fire Police, Army personnel carried out search operation around the Lachung axis of the Access Tunnel. They couldn't cross the access intake due to bad weather and accumulation fresh sludges . | Mr. Lakpa Tshering Lepcha & team | |
| 05-Oct-23 | From the list of 16 Nos missing employees, Two persons (Bhim Singh and Mahendra Singh) were rescued from the DAM site by ITBP, 04 Nos Army Personnel, Fire Department (Chungthang) and Employees of the Teesta-III employees. Both the persons were under trauma & was shifted for medical treatment at nearby hospital. | 1. Mr. Lakpa Tshering Team & Team- Left Bank Side. 2. Mr. Amar Chettri & Team- Right Bank Side | 1. Team#1- Mr. Lakpa Tshering Lepcha, Mr. Topden Lepcha & Mr. Hemant Limboo, (Rescue Team from Sikkim Urja). 2. Team#2- Mr. Amar Chettri & Team (07 Nos) |
| 06-Oct-23 | A team comprising of 06 Nos Company Employees from ITBP Relief Camp carried out search operation around the accessible area of Dam Complex with searching team of State Govt., ITBP Rescue team gone for searching of missing persons. | Mr. Ashish Thapa & Team | Mr. Mon Kumar Co-ordinating with 05 Nos Company employees of rescue team for missing employees. (Mr. Ashish Thapa, Mr. Saroj Sundas, Mr. Mon Kumar, Mr. Vijeet Pratap Singh, Mr. Abhishek Khare & Mr. V. K. Pandey) |
| 06-Oct-23 | The Project Employees along with fire police reached control room areas and dig around accessible area of the access tunnel from the control room side but couldn't trace anything. | | |
| 07-Oct-23 | ITBP & SDRF Started Searching operation at Dam Complex | | |
| 08-Oct-23 | ITBP & SDRF Started Searching operation on around the access tunnel and recovered a dead body near the Aeration Tunnel which was later identified as a Security Guard of SIS Limited (Name of the Security Guard was Mr. Sagar Tamang) . Project Team co-ordinated for evacuation of dead body and later handed over to the Guardian of the deceased in presence of State Police and Hospital Administration on 9th Oct-23. | Family Contact details below - * Govind Gurung (Elder Brother) * Contact No - 9749726261 | Body Handing Taking Memo: Body Handed over by: Mr. Bhakti Pd. Bastola, Chungthang Ps (LNK-090186) and Taken Over by : Mr. Salim Tamang from Mangan District Hospital Morgue., Dead Body Transit by Hired Pick-up Driver Mr. Lai Subba (Limboo) & Mr. Ran Bahadur Chettri |
| 09-Oct-23 | On further search operation on 09th Oct by SDRF & ITBP 01 More Dead Body was recovered from the Aeration Tunnel which was later identified as Mr. Tika Ram Pradhan (SIS Security Guard). the mortal of the security guard was handed over to the guardian of deceased in presence of Sikkim police and Hospital Administration on 10th Oct. | Family Contact details below - * Govind Gurung (Elder Brother) * Contact No - 9749726261 | Body Handing Taking Memo: Body Handed over by: Mr. Bhakti Pd. Bastola, Chungthang Ps (LNK-090186) and Taken Over by : Mr. Salim Tamang from Mangan District Hospital Morgue., Dead Body Transit by Hired Pick-up Driver Mr. Lai Subba (Limboo) & Mr. Ran Bahadur Chettri |



| | | | |
|-------------------------|---|--|--|
| 10-Oct-23 | Detail Search Operation carried out by ITBP SDRF & NDRF around the Dam Complex | | |
| 11-Oct-23 | Detail Search Operation carried out by ITBP SDRF & NDRF around the Dam Complex | | |
| 12-Oct-23 | A team from the project was formed, who was given responsibility to visit all the police stations downstream of the Project Area including Singtam Police Station to look around & identify the bodies been recovered. | | |
| 13-Oct-23 | A Same team from the project visit all the police stations downstream of the Project Area including Singtam police Station to look around & identify the bodies been recovered. | | |
| 14-Oct-23 | A Same team from the project visit all the police stations downstream of the Project Area including Singtam police Station to look around & identify the bodies been recovered. | | |
| 15-Oct-23 | A Same team from the project visit all the police stations downstream of the Project Area including Singtam police Station to look around & identify the bodies been recovered. | | |
| 16-Oct-23 | A Same team from the project visit all the police stations downstream of the Project Area including Singtam police Station to look around & identify the bodies been recovered. | | |
| | Another team at Siliguri formed to look around & identify the recovered bodies around the Siliguri & New Jalpaiguri. | | |
| 17-Oct-23 | A Same team from the project visit all the police stations downstream of the Project Area including Singtam police Station to look around & identify the bodies been recovered. | | |
| | A same team at Siliguri to look around & identify the recovered bodies around the Siliguri & New Jalpaiguri. | | |
| 18-Oct-23 | A new team comprising of climbers and local people was deployed for detailed combing of possible areas around the dam complex for the recovery of bodies. | | |
| 19-Oct-23 | The Same team carried out combing operation on both the banks of the river teesta around the dam complex and as per the latest information no mortal remains were recovered so far. Same search operation is being planned to carried out further in the downstream section of the dam complex. | | |
| 20-Oct to 25th Oct 2023 | The Same team carried out combing operation on both the banks of the river teesta around the dam complex and as per the latest information no mortal remains were recovered so far. Same search operation is being planned to carried out further in the downstream section of the dam complex. | | |





RELIEF ACTIVITIES

The Sikkim Urja Limited (SUL) immediately after the disaster, started ground activities towards the relief of the affected people. Due to massive swath of the entire connectivity including NH 10 & many bridges, SUL supported the administration & State Disaster Relief Force (SDRF) in identification of alternative routes to various affected places mainly route to Chungthang. The foot track & small vehicular road via Dzongu & project Adit-V location was verified and suggested to SDRF & rescue of the stranded workers & tourist.

SUL hired a helicopter & put to operate w.e.f. 7th Oct 2023 and started relief & rescue operation focusing mainly in Chungthang. Initially due to bad weather, relief & rescue operation was affected but from 9th Oct 2023 operation was made effective, where rescue & relief activities like evacuation of the patients, supply of food, cloths & other essential commodities, etc. could carry out effectively. The helicopter was operated from 7th Oct 2023 to 21st Oct 2023 (15 Days).





Further, to make the relief activities more effective, the NGO Bhavishya Bharat working partner in affected villages of Teesta-III HEP also was involved with medical support and distribution of essential food items to the affected villages through foot bridges & zip lines on behalf of the SUL.







REHABILITATION ACTIVITIES

The flood from the upstream was so huge that half of the Chungthang town was badly damaged including many buildings were swept away. The flood was carrying huge boulders and sediments which entered inside all the houses in Chungthang with an average sediment deposition of about 10 meter depth. With the depletion of river water level in Lachen, the connectivity was established with a log-bridge across and slowly, the cleaning of the debris was started with the help of volunteers from various adjacent villages in the initial stage. Since the deposition is huge and takes a lot amount of time to clean upto an extent to make the houses livable.

With the onset of cold winter season, people are trying to return to their respective houses with family from the relief camps and hence, SUL is supporting the villagers by supplying 70 laborer to clean the houses since 12th Oct 2023 and still the cleaning activities are supported by SUL. Further, to expedite the cleaning of deposited debris, SUL has procured water pumps & generators also to clean the houses.

42





(Extent of damages around Chungthang)





(SUL workers helping in cleaning the village)



45

Vidhan Vyas <vidhan.advocate@gmail.com>

Counter Affidavit / Reply of Respondent No. 3, Sikkim Urja Limited in OA 171/2023 in Hon'ble NGT

Vidhan Vyas <vidhan.advocate@gmail.com>

Sun, May 19, 2024 at 6:10 PM

To: ASHOK PRASAD <ashokadvhc@gmail.com>, Anamika Vodafone No <legumjure@gmail.com>, Rashmi Bothra <rashmibothra24@gmail.com>, Office of Sameer Abhyankar <contactadvsa@gmail.com>, Vidhan Vyas <vidhan.advocate@gmail.com>

Cc: ngtjudicial-kolkata@gov.in

Bcc: Satyan Sood <snsd@sikkimurjalimited.in>, Debanjali Mondal <diml@sikkimurjalimited.in>, v.vyas@vyaslegal.in, s.shah@vyaslegal.in

Sir/ Madam,

We are concerned with Respondent no. 3 in the above captioned matter. Please find attached the counter affidavit/reply in the above captioned matter.

Warm regards,

Vidhan Vyas
LLM, MCI Arb
Counsel for Respondent No. 3/Sikkim Urja Limited
Add: 1011, 10th Floor, Indraprakash Building,
21 Barakhamba Road,
New Delhi -110001
M: 8920685776
E: vidhan.advocate@gmail.com

This e-mail [including any attachments to it] is confidential, may be privileged and is the property of Advocate Vidhan Vyas. It is sent for the personal attention of the intended recipient only. If you are not the intended recipient, you are not authorised to read, print, retain, copy, disseminate, distribute, or use this message or part thereof. Although all precautions have been taken to ensure no viruses are present in this e-mail, no responsibility can be accepted for any loss or damage arising from any viruses in this e-mail or its attachments. This is an electronically generated document and does not require any signature for authentication. CONFIDENTIALITY NOTICE & DISCLAIMER: The contents of this e-mail are confidential to the ordinary user of the e-mail address to which it was addressed and may also be privileged. If you are not the addressee of this e-mail you may not copy, forward, disclose or otherwise use it or any part of it in any form whatsoever. If you have received this e-mail in error please e-mail the sender by replying to this message. The recipient should check this email and any attachments for the presence of viruses. The sender accepts no liability for any damage caused by any virus if transmitted by this email.

 **REPLY OF RE.3- OA 171 OF 2023.pdf**
11415K