

Annex - 1

NO. 33/1/2002-DO (NHPC)
Government of India
Ministry of Power

Annexure I
(Page 1 of 2)

NIMOO BAZGO H.E PROJECT (3x15 MW=45 MW), J&K BY NHPC SALIENT FEATURES

LOCATION

State	: Jammu & Kashmir
District	: ,Leh
River	: Indus
Village	: Near village Alchi

HYDROLOGY

Catchment area	: 58880 sq.km
In India	: 32108 sq.km
In China / Tibet	: 26772 sq.km

RESERVOIR

Full reservoir level (FRL)	: El 3093.0 m
Min.Draw Down Level (MDDL)	: El 3090.0 m
Gross storage at FRL	: 52.82 MCM/1.92 MCM (ultimate)
Live Storage	: 9.72 MCM/1.12 MCM (ultimate)
Submergence at FRL	: 3.42 Sq km/1.12 MCM

DIVERSION CHANNEL

Shape	: Trapezoidal (base width - 20m)
Length	: 372 m.
Diversion discharge	: 2060 Cumecs

DAM

Type	: Concrete gravity dam
Top elevation of dam	: El 3094.0 m
Height of dam maximum	: 57 m
Length of dam at top	: 247.9m

SPILLWAY

Design flood	: 4500 cumec
Type	: Orifice type
Crest elevation	: El 3065 m
Width of spillway	: 65 m
Number of bays	: 5 nos

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NO. 33/1/2002-DO (NHPC)
Government of India
Ministry of Power

Annexure I
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Gates (radial)	: 5 No, 7 m x 9 m
INTAKE	
C/L of Intake	: El 3081.5 m
Number	: 3
Size of gate opening	: 2.59 m/3.30 m
PENSTOCK	
Number	: 3 Nos
Size	: 3.3 m dia (Internal)
Shape	: Circular
Length	: 63 m
Design discharge	: 48.70 cumec
POWER HOUSE	
Type	: Surface
Installed capacity	: 45 MW (3 x 15 MW
Size of Machine Hall	: 45.75 mx 19 mx45m
Size of Service Bay	: 21.75m X 19m
Type of turbine	: Vertical Francis
Speed of Turbine	: 200 RPM
Generator Voltage	: 11 kV
Transmission Voltage	: 33 kV
Turbine axis elevation	: EL 3049.0 m
Design Discharge	: 48.70 Cumec
Rated net head	: 34 m
Draft tube gate	: 6 Nos , 3.68 m X 4.65 m
TAIL POOL	
Weir level	: EL 3054.0 m
Length of the weir	: 37.76 m
Length of the tailpool	: 34.96 m
Normal TWL (3 units running)	: EL 3055.73 m
POWER GENERATED	
Annual energy generation in 90% dependable year with 95 % machine availability	: 239.33 MU
Annual Plant Load factor	: 60.71%

Annex - 2

CHAPTER 3

HYDRO POWER GENERATING STATIONS

31. **Definitions:** Unless the context otherwise requires for the purpose of this chapter, :-

- (i) **'Act'** means the Electricity Act, 2003;
- (ii) **'Additional Capitalisation'** means the capital expenditure actually incurred after the date of commercial operation of the station and admitted by the Commission after prudence check subject to provisions of regulation 34;
- (iii) **'Authority'** means Central Electricity Authority referred to in Section 70 of the Act;
- (iv) **'Auxiliary Energy Consumption'** in relation to a period means the quantum of energy consumed by auxiliary equipment of the generating station, and shall be expressed as a percentage of the sum of gross energy generated at generator terminals of all the units of the generating station;
- (v) **'Beneficiary'** in relation to a generating station means the person buying power generated at such a generating station on payment of annual capacity charges;
- (vi) **'Capacity Index'** means the average of the daily capacity indices over one year;
- (vii) **'Commission'** means the Central Electricity Regulatory Commission referred to in Section 76 of the Act;
- (viii) **'Cut off Date'** means after one year of the date of commercial operation of the generating station;
- (ix) **'Date of Commercial Operation'** or **'COD'** in relation to a unit means the date declared by the generator after demonstrating the Maximum Continuous Rating (MCR) or Installed Capacity (IC) through a successful trial run, after notice to the beneficiaries, and in relation to the generating station the date of commercial operation means the date of commercial operation of the last unit of the generating station;
- (x) **'Daily Capacity Index'** means the declared capacity expressed as a percentage of the maximum available capacity for the day and shall be mathematically expressed as hereunder:

$$\text{Daily Capacity Index} = \frac{\text{Declared Capacity (MW)}}{\text{Maximum Available Capacity (MW)}} \times 100$$

Daily capacity index shall be limited to 100%.

(xi) **'Declared Capacity' or 'DC'**

(a) For run-of-river power station with pondage and storage-type power stations, declared capacity means the ex-bus capacity in MW expected to be available from the generating station over the peaking hours of next day, as declared by the generator, taking into account the availability of water, optimum use of water and availability of machines and for this purpose, the peaking hours shall not be less than 3 hours within 24 hour period, and

(b) In case of purely run-of-river power stations, declared capacity means the ex-bus capacity in MW expected to be available from the generating station during the next day, as declared by the generating station, taking into account the availability of water, optimum use of water and availability of machines;

(xii) **'Deemed Generation '** means the energy which a generating station was capable of generating but could not generate due to the conditions of grid or power system, beyond the control of generating station resulting in spillage of water;

(xiii) **'Design Energy'** means the quantum of energy which could be generated in a 90% dependable year with 95% installed capacity of the generating station;

(xiv) **'Existing Generating Station'** means a generating station declared under commercial operation from a date prior to 1.4.2004;

(xv) **'Infirm Power'** means electricity generated prior to commercial operation of the unit of a generating station;

(xvi) **'Installed Capacity' or 'IC'** means the summation of the name plate capacities of the units in the generating station or the capacity of the generating station (reckoned at the generator terminals) as approved by the Commission from time to time;

(xvii) **'Maximum Available Capacity'** means the following:

(a) Run-of-river power station with pondage and storage type power stations

The maximum capacity in MW, the generating station can generate with all units running, under the prevailing conditions of water levels and flows, over the peaking hours of next day,

Explanation

The peaking hours for this purpose shall not be less than 3 hours within a 24 hours period.

(b) Purely run-of-river power stations

The maximum capacity in MW, the generating station can generate with all units running, under the prevailing conditions of water levels and flows over the next day.

(xviii) 'Operation and Maintenance Expenses' or 'O&M Expenses' means the expenditure incurred in operation and maintenance of the generating station, including part thereof, including the expenditure on manpower, repairs, spares, consumables, insurance and overheads;

(xix) 'Original Project Cost' means the actual expenditure incurred by the generating company, as per the original scope of project up to first financial year closing after one year of the date of commercial operation of the last unit as admitted by the Commission for determination of tariff;

(xx) 'Primary Energy' means the quantum of energy generated up to the design energy on per year basis at the generating station;

(xxi) 'Project' means a generating station and includes the complete hydro power generating facility covering all components such as dam, intake, water conductor system, power generating station and generating units of the scheme as apportioned to power generation;

(xxii) 'Run-of-river power station' means a hydro electric power generating station which has no upstream pondage;

(xxiii) 'Run –of-river power station with pondage' means a hydro electric power generating station with sufficient pondage for meeting the diurnal variation of power demand;

(xiv) 'Storage Type power station' means a hydro electric power generating station associated with large storage capacity to enable variation of generation of power according to demand;

(xxv) 'Saleable Primary Energy' means the quantum of primary energy available for sale (ex-bus) after allowing for 12% free energy to the home state;

(xxvi) 'Secondary Energy' means the quantum of energy generated in excess of the design energy on per year basis at the generating station;

(xxvii) 'Saleable Secondary Energy' means the quantum of secondary energy available for sale (ex-bus) after allowing for 12% free energy to the home state;

(xxviii) 'Scheduled Energy' means the quantum of energy to be generated at the generating station over the 24-hour period, as scheduled by the Regional Load Despatch Centre;

(xxix) 'Year' means a financial year.

32. **Norms of Operation:** The norms of operation shall be as under, namely:

(i) **Normative capacity index for recovery of full capacity charges**

(a) **During first year of commercial operation of the generating station**

- | | | |
|------|---|-------|
| (i) | Purely Run-of-river power stations | - 85% |
| (ii) | Storage type and Run-of-river power stations with pondage | - 80% |

(b) **After first year of commercial operation of the generating station**

- | | | |
|------|---|-------|
| (i) | Purely Run-of-river power stations | - 90% |
| (ii) | Storage type and Run-of-river power stations with pondage | - 85% |

Note

There shall be *pro rata* recovery of capacity charges in case the generating station achieves capacity index below the prescribed normative levels. At Zero capacity index, no capacity charges shall be payable to the generating station.

(ii) **Auxiliary Energy Consumption :**

- | | | |
|-----|--|----------------------------|
| (a) | Surface hydro electric power generating stations with rotating exciters mounted on the generator shaft | - 0.2% of energy generated |
| (b) | Surface hydro electric power generating stations with static excitation system | - 0.5% of energy generated |
| (c) | Underground hydro electric power generating stations with rotating exciters mounted on the generator shaft | - 0.4% of energy generated |
| (d) | Underground hydro electric power generating stations with static excitation system | - 0.7% of energy generated |
-

(iii) **Transformation losses**

From generation voltage to transmission voltage - 0.5% of energy generated.

33. **Capital Cost:** Subject to prudence check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for determination of final tariff. The final tariff shall be determined based on the admitted capital expenditure actually incurred up to the date of commercial operation of the generating station and shall include initial capital spares subject to a ceiling norm of 1.5% of the original project cost as on the cut off date.

Provided further that where the power purchase agreement entered into between the generating company and the beneficiaries provides a ceiling of actual expenditure, the capital expenditure shall not exceed such ceiling for determination of tariff.

In case of existing generating stations, the project cost admitted by the Commission prior to 1.4.2004 shall form the basis for determination of tariff.

Note

The scrutiny of the project cost estimates by the Commission shall be limited to the reasonableness of the capital cost, financing plan, interest during construction, use of efficient technology and such other matters for the purposes of determination of tariff.

34. **Additional capitalisation:** (1) The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission subject to prudence check.

- (i) Deferred liabilities,
- (ii) Works deferred for execution,
- (iii) Procurement of initial capital spares in the original scope of works subject to ceiling specified in regulation 33,
- (iv) Liabilities to meet award of arbitration or in compliance of the order or decree of a court, and
- (iv) On account of change in law.

Provided that original scope of works along with estimates of expenditure shall be submitted along with the application for provisional tariff.

Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of generating station.

(2) Subject to the provision of clause (3) of this regulation, the capital expenditure of the following nature actually incurred after the cut off date may be admitted by the Commission subject to prudence check:

- (i) Deferred liabilities relating to works/services within the original scope of work;
- (ii) Liabilities to meet award of arbitration or in compliance of the order or decree of a court;
- (iii) On account of change in law; and
- (iv) Any additional works/service which has become necessary for efficient and successful operation of plant but not included in the original capital cost.

(3) Any expenditure incurred on acquiring minor items/assets like tools and tackles, personal computers, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, T.V, washing machine, heat-convector, mattresses, carpets, etc brought after the cut off date shall not be considered for additional capitalization for determination of tariff with effect from 1.4.2004.

Note

The list of items is illustrative and not exhaustive.

(4) Impact of additional capitalisation in tariff revision may be considered by the Commission twice in a tariff period, including revision of tariff after the cut off date.

Note 1

Any expenditure admitted on account of committed liabilities within the original scope of work and the expenditure deferred on techno-economic grounds but falling within the original scope of work shall be serviced in the normative debt-equity ratio specified in regulation 36.

Note 2

Any expenditure on replacement of old assets shall be considered after writing off the gross value of the original assets from the original capital cost, except such items as are listed in Clause (3) of this regulation.

Note 3

Any expenditure admitted by the Commission for determination of tariff on account of new works not in the original scope of work shall be serviced in the normative debt-equity ratio specified in regulation 36.

Note 4

Any expenditure admitted on renovation and modernization and life extension shall be serviced on normative debt-equity ratio specified in regulation 36 after writing off the original amount of the replaced assets from the original capital cost.

35. **Sale of Infirm Power:** Any revenue earned by the generating company from sale of infirm power, shall be taken as reduction in capital cost and shall not be treated as revenue. The rate for infirm power shall be same as the primary energy rate of the generating station.

36. **Debt-Equity Ratio:** (1) In case of all generating stations, debt-equity ratio as on the date of commercial operation shall be 70:30 for determination of tariff. Where equity employed is more than 30%, the amount of equity for determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan.

Provided that in case actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff.

(2) The debt and equity amounts arrived at in accordance with clause (1) shall be used for calculating interest on loan, return on equity, Advance Against Depreciation and Foreign Exchange Rate Variation.

37. **Computation of Annual Charges:** The two-part tariff for sale of electricity from a hydro power generating station shall comprise of recovery of annual capacity charge and primary energy charges:

- (i) **Capacity Charges:** The capacity charges shall be computed in accordance with the following formula:

$$\text{Capacity Charges} = (\text{Annual Fixed Charge} - \text{Primary Energy Charge})$$

Note

Recovery through Primary energy charge shall not be more than Annual Fixed Charge.

- (ii) **Annual Fixed Charges:** Annual Fixed Charges shall consist of:

- (a) Interest on loan capital;
 - (b) Depreciation, including Advance Against Depreciation;
 - (c) Return on equity;
 - (d) Operation and maintenance expenses; and
 - (e) Interest on working capital.
-

38. **Computation of Annual Fixed Charges:** The annual fixed charges shall be computed on the following basis:

(i) **Interest on loan capital**

(a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 36.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan as per regulation 36 minus cumulative repayment as admitted by the Commission up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis.

(c) The generating company shall make every effort to swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such swapping shall be borne by the beneficiaries.

(d) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefit passed on to the beneficiaries.

(e) In case of any dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment as ordered by the Commission to the generating company during pendency of any dispute relating to swapping of loan.

(f) In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and the interest on loan capital shall be calculated accordingly.

(g) The generating company shall not make any profit on account of swapping of loan and interest on loan.

(ii) **Depreciation, including Advance Against Depreciation**

(a) **Depreciation**

For the purpose of tariff, depreciation shall be computed in the following manner, namely:

(i) The value base for the purpose of depreciation shall be the historical cost of the asset.

(ii) Depreciation shall be calculated annually based on straight line method over the useful life of the asset and at the rates prescribed in Appendix II to these regulations.

The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government/Commission.

(iii) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

(iv) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on *pro rata* basis.

(b) **Advance Against Depreciation**

In addition to allowable depreciation, the generating company shall be entitled to Advance Against Depreciation, computed in the manner given hereunder:

AAD = Loan repayment amount as per regulation 38 (i)
subject to a ceiling of 1/10th of loan amount as per regulation 38 minus depreciation as per schedule

Provided that Advance Against Depreciation shall be permitted only if the cumulative repayment up to a particular year exceeds the cumulative depreciation up to that year;

Provided further that Advance Against Depreciation in a year shall be restricted to the extent of difference between cumulative repayment and cumulative depreciation up to that year.

(iii) **Return on Equity**

Return on equity shall be computed on the equity base determined in accordance with regulation 36 and shall be @ 14% per annum.

Provided that equity invested in any foreign currency shall be allowed a return up to the prescribed limit in the same currency and the payment on this account shall be made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

Explanation

The premium raised by the generating company while issuing share capital and investment of internal resources created out of free reserve of the existing generating station, if any, for the funding of the project, shall also be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station and forms part of the approved financial package.

(iv) Operation and Maintenance expenses

(a) The operation and maintenance expenses including insurance, for the existing generating stations which have been in operation for 5 years or more in the base year of 2003-04, shall be derived on the basis of actual operation and maintenance expenses for the years 1998-99 to 2002-03, based on the audited balance sheets, excluding abnormal operation and maintenance expenses, if any, after prudence check by the Commission.

The average of such normalised operation and maintenance expenses after prudence check, for the years 1998-99 to 2002-03 considered as operation and maintenance expenses for the year 2000-01 shall be escalated at the rate of 4% per annum to arrive at operation and maintenance expenses for the base year 2003-04.

The base operation and maintenance expenses for the year 2003-04 shall be escalated further at the rate of 4% per annum to arrive at permissible operation and maintenance expenses for the relevant year of tariff period.

(b) In case of the hydro electric generating stations, which have not been in existence for a period of five years, the operation and maintenance expenses shall be fixed at 1.5% of the capital cost as admitted by the Commission and shall be escalated at the rate of 4% per annum from the subsequent year to arrive at operation and maintenance expenses for the base year 2003-04. The base operation and maintenance expenses shall be further escalated at the rate of 4% per annum to arrive at permissible operation and maintenance expenses for the relevant year.

(c) In case of the hydro electric generating stations declared under commercial operation on or after 1.4.2004, the base operation and maintenance expenses shall be fixed at 1.5% of the actual capital cost as admitted by the Commission, in the year of commissioning and shall be subject to an annual escalation of 4% per annum for the subsequent years.

(v) **Interest on Working Capital**

(a) Working Capital shall cover:

(i) Operation and Maintenance expenses for one month;

(ii) Maintenance spares @ 1% of the historical cost escalated @ 6% per annum from the date of commercial operation; and

(iii) Receivables equivalent to two months of fixed charges for sale of electricity, calculated on normative capacity index.

(b) Rate of interest on working capital shall be the short-term Prime Lending Rate of State Bank of India as on 1.4.2004 or on 1st April of the year in which the generating unit/station is declared under commercial operation, whichever is later. The interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

39. **Primary and Secondary Energy Charges:** (1) Primary energy charge shall be worked out on the basis of paise per kWh rate on ex-bus energy scheduled to be sent out from the hydro electric power generating station after adjusting for free power delivered to the home state.

(2) Rate of primary energy for all hydro electric power generating stations, except for pumped storage generating stations, shall be equal to the lowest variable charges of the central sector thermal power generating station of the concerned region. The primary energy charge shall be computed based on the primary energy rate and saleable energy of the station.

Provided that in case the primary energy charge recoverable by applying the above primary energy rate exceeds the Annual Fixed Charge of a generating station, the primary energy rate for such generating station shall be calculated by the following formula:

$$\text{Primary energy rate} = \frac{\text{Annual Fixed Charge}}{\text{Saleable Primary Energy}}$$

(3) Primary Energy Charge = Saleable Primary Energy x Primary Energy Rate

Secondary Energy Rate shall be equal to Primary Energy Rate.

Secondary Energy Charge = Saleable Secondary Energy x Secondary Energy Rate.

40. **Incentive:** (1) Incentive shall be payable in case of all the generating stations, including in case of new generating stations in the first year of operation, when the capacity index (CI) exceeds 90% for purely run-of-river power generating stations and 85% for run-of-river power station with pondage or storage type power generating stations and incentive shall accrue up to a maximum capacity index of 100%.

Annex -3

No.33/1/2002-DO(NHPC)
Government of India
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi dated 24.8. 2006

Chairman & Managing Director
NHPC Limited, Sector-33,
Faridabad, Haryana.

Sub: Implementation of Nimoo Bazgo Hydroelectric Project (45 MW) in the Central Sector in Jammu & Kashmir by National Hydroelectric Power Corporation Ltd.

Sir,

I am directed to convey the approval of the President of India, in terms of the Articles of Association of National Hydroelectric Power Corporation Limited (NHPC), for setting up of the Nimoo Bazgo Hydroelectric Project (45 MW) in the Central Sector in Jammu & Kashmir by NHPC at a total cost of Rs.611.01 crores including IDC & FC charges of Rs.7.34 crores (at December 2005 price level).

2. The project will be funded through equity (Rs.183.30 crores) and subordinate debt to be provided by Government of India and commercial loan to be raised by NHPC. The details of financing pattern and terms and conditions of the subordinate debt, including the interest rate will be issued separately in due course along with the Abstract of Cost. NHPC is authorised to incur expenditure on the project for which equity will be released by Government of India.

3. The project will be completed in a period of 48 months from the date of sanction by the Government of India. The sanction accorded above is subject to the following further conditions:

- The economy instructions issued by the Government of India from time to time, should be observed.
- The actual expenditure should not exceed the budget grant of each year.
- The expenditure will be related to the purpose for which it is sanctioned.

4. NHPC will submit a quarterly report to the Ministry of Power indicating financial and physical progress of implementation of the project.

5. The budgetary support from the Government in the form of equity/loan for this project is debitable to the relevant Heads in the Demands for the Grants of the Ministry of Power for which these funds have been/will be released.

Contd....2/-

Sushanta K. S.

CMD/5525
25/8/06

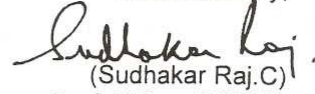
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25/8/06

6. This issues with the concurrence of Finance Branch of Ministry of Power vide their Dy.No.836/Fin/06 dated 4.8.2006.

Yours faithfully,



(Sudhakar Raj.C)

Desk Officer (NHPC)

Tel No. 2371 5507 (Extn.300)

Copy to:

1. Controller of Accounts, Ministry of Power, Sewa Bhawan, R.K. Puram, New Delhi
2. Principal Pay & Accounts Officer, Ministry of Power, New Delhi
3. Principal Director of Audit (Commercial) and Member Audit Board-II, 'A' Block Hutments, Behind South Block, New Delhi.
4. Principal director of Audit, Economic & Service Ministry, AGCR Building, New Delhi.
5. Chairperson, Central Electricity Authority, Sewa Bhawan, New Delhi.
6. Cabinet Secretariat (Shri K.L. Sharma, Dy. Secretary) Rashtrapati Bhawan, New Delhi – with reference to letter No.CCEA/18/2006(i) dated 6.6.2006.
7. Adviser (Energy), Planning Commission, Yojana Bhawan, New Delhi.
8. Ministry of Finance (Deptt. of Expenditure) PF Division, North Block, New Delhi.
9. Ministry of Statistics & Programme Implementation, Sardar Patel Bhawan, New Delhi.
10. Ministry of Finance (Deptt. of Economic Affairs), North Block, New Delhi.
11. Finance Commission Division, Department of Economic Affairs, CGO Complex, New Delhi.
12. PS to Minister of Power
13. PPS to Secretary (Power)/ PS to JS&FA/PS to JS(H)/Director (H-I) /Deputy Secretary (Fin.), Ministry of Power, New Delhi.
14. Finance Section/Budget Section, Ministry of Power, New Delhi.

No.33/1/2002-DO(NHPC)

Government of India

Ministry of Power

Shram Shakti Bhawan, Rafi Marg,

New Delhi dated 23.11. 2006

✓ Chairman & Managing Director
NHPC Limited, Sector-33,
Faridabad, Haryana.

Sub: Implementation of Nimoo Bazgo Hydroelectric Project (45 MW) in the Central Sector in Jammu & Kashmir by National Hydro-electric Power Corporation Ltd.

Sir,

In continuation of this Ministry's letter of even number dated 24.8.2006 conveying the approval of the President of India, in terms of the Articles of Association of National Hydroelectric Power Corporation Limited (NHPC), for setting up of the Nimoo Bazgo Hydroelectric Project (45 MW) in the Central Sector in Jammu & Kashmir by NHPC at a total cost of Rs.611.01 crores including IDC & FC charges of Rs.7.34 crores (at December 2005 price level), I am directed to say that subordinate debt of Rs.270 crores will be provided for the project at an interest rate of 4% per annum with repayment of principal to start from the 12th year after commissioning and continue till the 29th year. There will be no interest on the subordinate debt during construction and the interest will accrue and be paid annually after commissioning.

2. The abstract of the cost of the project is annexed to this letter.
3. The other terms and conditions of the above sanction will be the same as contained in this Ministry's letter dated 24.8.2006 referred to in para 1 above.

6. This issues with the concurrence of Finance Branch of Ministry of Power vide their Dy.No.9978/Fin/06 dated 20.11.2006.

Yours faithfully,



(Sudhakar Raj.C)

Desk Officer (NHPC)

Tel No. 2371 5507 (Extn.300)

Copy to:

1. Controller of Accounts, Ministry of Power, Sewa Bhawan, R.K. Puram, New Delhi
2. Principal Pay & Accounts Officer, Ministry of Power, New Delhi
3. Principal Director of Audit (Commercial) and Member Audit Board-II, 'A' Block Hutments, Behind South Block, New Delhi.
4. Principal director of Audit, Economic & Service Ministry, AGCR Building, New Delhi.
5. Chairperson, Central Electricity Authority, Sewa Bhawan, New Delhi.
6. Cabinet Secretariat (Shri K.L. Sharma, Dy. Secretary) Rashtrapati Bhawan, New Delhi – with reference to letter No.CCEA/18/2006(i) dated 6.6.2006.
7. Adviser (Energy), Planning Commission, Yojana Bhawan, New Delhi.
8. Ministry of Finance (Deptt. of Expenditure) PF Division, North Block, New Delhi.
9. Ministry of Statistics & Programme Implementation, Sardar Patel Bhawan, New Delhi.
10. Ministry of Finance (Deptt. of Economic Affairs), North Block, New Delhi.
11. Finance Commission Division, Department of Economic Affairs, CGO Complex, New Delhi.
12. PS to Minister of Power
13. PPS to Secretary (Power)/ PS to JS&FA/PS to JS(H)/Director (H-I) /Deputy Secretary (Fin.), Ministry of Power, New Delhi.
14. Finance Section/Budget Section, Ministry of Power, New Delhi.

S.
No

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1

NIMOO - BAZGO H. E. PROJECT (3 X 15 MW), J&K
ABSTRACT OF COST
(Subordinate Loan of Rs. 270 crores)*

		Rs. in Crores
S. No	Description	Total Cost at Dec. 2005 PL
A	<u>CIVIL WORKS</u>	
1	DIRECT CHARGES	
	<u>I - Works</u>	
	A - Preliminary	5.97
	B - Land (Rate of Government Land at 50%)	11.92
	C - Works	279.15
	J - Power Plant Civil Works	94.63
	K - Buildings	29.44
	O - Miscellaneous	14.36
	P - Maintenance During Construction	4.21
	Q - Special Tools and Plants	2.15
	R - Communication	16.63
	X - Environment and Ecology	10.06
	Y - Losses on Stock	1.05
	TOTAL OF I - WORKS	469.55
	II - Establishment (5% of I - Works - B Land)	22.39
	III - Tools and Plants (0.5% of I - Works)	2.35
	IV - Suspense	
	V - Receipt & Recoveries	-2.94
	TOTAL DIRECT CHARGES	491.35
2	INDIRECT CHARGES	
	I - Capitalised Value of Abatement of Land Revenue (5% of Cost of Culturable Land)	0.03
	II - Audit & Accounts Charges (1% of I - Works)	4.97
	TOTAL INDIRECT CHARGES	5.00
	TOTAL CIVIL WORKS	496.35
B	<u>ELECTRICAL WORKS</u>	107.31
	TOTAL COST (CIVIL + ELECTRICAL)	603.67
	INTEREST DURING CONSTRUCTION (AT DEBT : EQUITY = 70 : 30)	6.08
	FINANCING CHARGES (FC)	1.26
	TOTAL COST INCLUDING IDC & FC	611.01

*Subordinate debt of Rs.270 crore at an interest rate of 4% per annum with repayment of principal to start from the 12th year after commissioning and continue till the 29th year ; no interest on subordinate debt during construction ; and interest on subordinate debt to accrue and be paid annually after commissioning.

Handwritten signature: Rudhokan Rg.1

Annex -5

F.No. 33/1/2002-DO(NHPC)
Government of India
Ministry of Power

Annex-II
Para 5.0 (ii)

NIMOO - BAZGO H. E. PROJECT (3 X 15 MW), J&K

ABSTRACT OF COST

Grant - Rs. 270 Crores (After 30% Equity Component)

S. No	Description	Total Cost at Dec. 2005 PL
A	<u>CIVIL WORKS</u>	
1	DIRECT CHARGES	
	I - Works	
	A - Preliminary	5.97
	B - Land	11.92
	C - Works	279.15
	J - Power Plant Civil Works	94.63
	K - Buildings	29.44
	O - Miscellaneous	14.36
	P - Maintenance During Construction	4.21
	Q - Special Tools and Plants	2.15
	R - Communication	16.63
	X - Environment and Ecology	10.06
	Y - Losses on Stock	1.05
	TOTAL OF I - WORKS	469.55
	II - Establishment	22.39
	III - Tools and Plants	2.35
	IV - Suspense	
	V- Receipt & Recoveries	-2.94
	TOTAL DIRECT CHARGES	491.35
2	INDIRECT CHARGES	
	I - Capitalised Value of Abatement of Land Revenue (5% of Cost of Culturable Land)	0.03
	II - Audit & Accounts Charges (1% of I - Works)	4.97
	TOTAL INDIRECT CHARGES	5.00
	TOTAL CIVIL WORKS	496.35
B	<u>ELECTRICAL WORKS</u>	107.31
	TOTAL COST (CIVIL + ELECTRICAL)	603.67
	INTEREST DURING CONSTRUCTION	6.08
	FINANCING CHARGES (FC)	1.26
	TOTAL COST INCLUDING IDC & FC	611.01

F/CEG/751/02/01

RURAL ELECTRIFICATION CORPORATION LIMITED
Core-4, SCOPE Complex, No. 7, Lodi Road, New Delhi – 110 003

No. SEC-1/8(1)/2004/

September 21, 2004

The Chairmen
All State Electricity Boards

The Secretaries, Incharge of Power
All State Governments

The Chairmen/Managing Director
All State Power Utilities

The Chairmen/Managing Directors
All RE Coop. Societies.

Sub: Revision of Interest Rates applicable to REC's Loans/Schemes.

The Corporation has revised its interest rates on disbursement of various categories of loans/schemes as detailed below:

SLNo	Category of Loan	Interest Rates p.a.
1.	Dalit Basti Electrification (P:VE)	6.5%
2.	Village Electrification (P:VE)	7%
3.	Hamlet Electrification (P: HE)	8%
4.	Intensive Electrification (P:IE)	8%
5.	Pumpset Energisation SPA (PE)	8%
6.	Systems Improvement (P:SI)	8%
7.	Comprehensive Systems Improvement	8%
8.	Systems Improvement (SI) Meters/Transformers/Conductors/Capacitors-SI (M/Trans/Cond./Cap.)	8%

9.	Short Term Loan : a) For period upto 12 months b) For period above 12 months upto 36 months	7.25% 8%
10.	<u>Generation & Transmission Projects</u> <u>A. Fixed Rates:</u> a) For State sector Projects: (i) Loans for upto 5 years. (ii) Loans for more than 5 years (b) Private Sector projects (Loans for more than 5 years) <u>B. Rate with reset after every 3 years :</u> B-1 Generation Projects (other than Large & Mega Projects) a) State Sector Grade-I and Central Sector including CPSUs like NTPC, NLC,DVC,NHPC, PGCIL, SJVNL, THDC and Central Sector Joint Venture Company and AAA rated State Sector Companies. b) Private Sector Borrowers i) AAA rated ii) Other companies B-2 Large Generation Projects: a) State Sector Grade-I and Central Sector other than PSUs indicated below. b) NTPC, NLC, DVC, NHPC, PGCIL, SJVNL and all AAA rated companies in State/ Central Sector. c) Private sector borrowers i) AAA rated ii) Other companies	 8% 8.50% 9.50% 8% 8.00% 8.75% 7.75% 7.50% 7.50%

Annex -7



POWER PURCHASE AGREEMENT

BETWEEN

NATIONAL HYDROELECTRIC POWER CORPORATION LTD.

AND

POWER DEVELOPMENT DEPARTMENT, JAMMU AND KASHMIR

THIS POWER PURCHASE AGREEMENT is entered into on this 26th day of Oct. 2005 between National Hydroelectric Power Corporation Ltd., a Company incorporated under the Companies Act, 1956 having its registered office at NHPC Office Complex, Sector-33, Faridabad (Haryana) - 121003. (hereinafter called 'NHPC', which expression shall unless repugnant to the context or meaning thereof include its successors and assigns) as party of the first part and Power Development Department, Jammu and Kashmir (hereinafter referred to as 'PDD, J&K', generally referred to as "Bulk Power Customer" which expressions shall unless repugnant to the context shall include their respective successors and assigns) as party of the second part.

Whereas NHPC is a generating company of Government of India and the Bulk Power Customer (s) shall be allocated power by Govt. of India from Nimoo Bazgo H.E. Project, J&K (hereinafter referred to as "Project") owned and to be operated by NHPC.

Page 1 of 7

Now, therefore, in consideration of the premises and mutual covenants and conditions set forth herein, it is hereby agreed by and between the parties hereto as follows:-

1.0 DEFINITIONS:

The words/expressions used in this Agreement, unless repugnant to the context, shall have the same meanings as respectively assigned to them by the Electricity Act, 2003 as amended from time to time and Act that would come into force as a substitute or otherwise to the above stated Act. The words/expressions mentioned below shall have the same meaning as respectively assigned to them hereunder :-

- i) Month : means English Calendar Month.
- ii) Year : means financial year commencing on 1st April and ending on 31st March.
- iii) Energy : means the electrical energy.
- iv) Power : means the electrical power.
- v) LC : means Irrevocable revolving Letter(s) of Credit.
- vi) CEA : means Central Electricity Authority.
- vii) CERC : means Central Electricity Regulatory Commission.
- viii) GOI : means Government of India.
- ix) IEGC : means Indian Electricity Grid Code.
- x) MOP : means Ministry of Power.
- xi) Outage : means the state of component when it is not available to perform its intended function due to some event directly associated with that component.
- xii) POWER GRID : means Power Grid Corporation of India Limited.
- xiii) NREB : means Northern Regional Electricity Board.
- xiv) NRLDC : means Northern Regional Load Dispatch Center.
- xv) REA : means periodic regional energy account including amendments thereof if any, prepared by NREB showing exchange of energy amongst the various constituents of NREB.



2.0 INSTALLED CAPACITY & ALLOCATION OF POWER :

- 2.1 The installed capacity of Nimoo Bazgo H.E. Project, J&K, is 45 MW (3x15MW). The installed capacity, is however, subject to derating/uprating of the generating units as determined from time to time by CEA.
- 2.2 The allocation of power from the Project amongst the Bulk Power Customer (s) shall be in accordance with the instructions regarding allocation of power issued by the MOP, Govt. of India from time to time. The entire Power generated from the Project shall be purchased by Govt. of J&K only.

3.0 GENERAL OBLIGATIONS:

- 3.1 The energy to be supplied under this Agreement shall be in the form of three phase, 50 hertz alternating current at a voltage of 33 KV. The frequency and voltage shall be subject to fluctuations as per provisions contained in IEGC and as amended from time to time.

3.2 EVACUATION OF POWER FROM THE PROJECT:

Evacuation point shall be 33 KV bus bar at Project . Evacuation of power from the delivery point of the Project shall be through the transmission system of POWER GRID,PDD, J&K or any other agency as the case may be. The Bulk Power Customer shall be responsible and shall make necessary arrangements separately with the concerned agency for evacuation of power and payments of evacuation charges etc. and NHPC shall not be responsible for the same in any manner.

4.0 METERING ARRANGEMENTS:

Metering arrangements including its installation, testing, maintenance and collection, transportation and processing of data required for energy exchange shall be governed as per the notification/ directives issued by CERC from time to time and as per relevant provisions contained in IEGC as amended from time to time.

5.0 ACCOUNTING OF ENERGY:

The quantum of energy sold to the Bulk Power Customer out of the energy available for sale shall be the energy as per joint meter reading or as indicated in the REAs issued by NREB. The REA including amendments, if any, as issued by NREB shall be binding on both the parties.

6.0 TARIFF:

- 6.1 The tariff to be charged & its associated Terms and Conditions for the energy to be supplied by NHPC from the Project shall be as per Tariff Notifications/ orders/directions issued by CERC from time to time.

6.2 In case a new tariff for the period beyond the period mentioned in the previous tariff notification/orders/direction of the Competent Authority is not finalized before that date, the Bulk Power Customer shall pay to NHPC for the power supplied from the Project beyond this date on adhoc/provisional basis as per the directions/instructions/orders of CERC.

6.3 In addition to the energy tariff set out, the Bulk Power Customer shall also be liable to pay to NHPC in accordance with any law in force, all payments made or payable by it on account of taxes, duties, cess, levy, fees or other imposition etc. levied or to be levied in future as a new tax by the Government or other authority in respect of generation, transmission and supply of energy including activities incidental and ancillary thereto as per orders of CERC in this regard. The Bulk Power Customer shall be liable to pay and further pay to NHPC the FERV as per the applicable rates.

7.0 BILLING :

7.1 NHPC shall prepare bill(s) for the energy supplied to the Bulk Power Customer and Bulk Power Customer shall accept these bills for payment . The bill shall be the aggregate of charges as approved /notified by CERC/Government of India from time to time.

7.2 In case Bulk Power Customer has any objection as to the accuracy of any bill(s), it shall lodge a written objection with NHPC within 45 days on presentation of such bill(s). On such objection being upheld by NHPC, the same shall be rectified within a period of 30 days from the date of receipt of written objection and necessary effect of the same shall be given in the subsequent bill(s).

8.0 PAYMENT:

8.1 Payment of bills for supply of power from the Project shall be made by the Bulk Power Customer through a confirmed, revolving, irrevocable Letter of Credit to be established in favour of NHPC for an amount equivalent to 105 percent of monthly billing of 12 months with appropriate bank as mutually acceptable to the parties. The LC shall be kept valid at all the time during the validity of this Agreement or extended period. The amount of LC shall be reviewed quarterly. NHPC shall intimate the revised amount of L.C. one month in advance of start of the quarter. If still the amount of energy supplied is more than the amount of L.C., the payment of excess amount shall be made by the Bulk Power Customer directly on presentation of such bill(s). All the bank charges shall be borne by the Bulk Power Customer.

8.2 NHPC shall present bill(s) to the said Bankers with a copy to the Bulk Power Customer. The bill(s) so presented by NHPC to the said Bankers shall be promptly paid on their presentation.

9.0 SURCHARGE ON LATE PAYMENT AND REBATE :

9.1 The provision for levy of surcharge and rebate shall be governed as per notification/directives/guidelines issued by CERC/GOI from time to time.

9.2 Notwithstanding what is contained above, if the bill(s) are not paid by Bulk Power Customer to NHPC within 60 days from the date of billing, NHPC shall have the option to regulate the supply of energy to Bulk Power Customer in accordance with the directives/guidelines issued by CERC/GOI from time to time.

10.0 ARBITRATION:

10.1 All questions, differences or disputes between the parties arising out of or in connection with this Agreement save and except as provided under clause 5.0 of this Agreement to the extent of power vested with NREB shall be settled through arbitration in accordance with the provisions of Arbitration and Conciliations Act, 1996 and any statutory modifications thereto.

10.2 In the event of such questions, differences or disputes between the parties, any party may by a written notice of 30 days to the other party request for appointment of a Sole Arbitrator to be decided mutually by the parties and in case of disagreement within 15 days thereafter to be decided by Chairman, Central Electricity Authority. The appointment of sole Arbitrator either mutually agreed by the parties or decided by the Chairman, CEA shall be made by HOD, Commercial Department, NHPC or to be intimated by PDD, J&K, alongwith the reference of dispute between the parties for adjudication by the sole Arbitrator. The decision of the Arbitrator shall be final and binding on the parties. The venue of the arbitration proceedings shall be decided by the Arbitrator with the consent of parties. The High court of Jammu and Kashmir, Jammu shall have exclusive jurisdiction in all matters arising under this Agreement.

10.3 The Arbitrator shall reasonably decide his fees. However, the Arbitrator's fees and cost of arbitration proceedings shall be borne equally by the parties. The arbitrator shall publish the award, within a reasonable time.

10.4 Notwithstanding the existence of any question, disputes and differences referred to arbitration, the parties hereto shall continue to perform their respective obligations under this Agreement.

11.0 FORCE MAJEURE:

Both the parties shall ensure compliance of 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 this Agreement to the extent that such failure is

due to force majeure events such as rebellion, mutiny, civil commotion, riot, strike, lock out, fire, explosion, flood, drought, cyclone, lightning, earthquake, war or other forces, accident or act of God. But any party claiming the benefit of this clause shall satisfy the other party of the existence of such an event(s).

12.0 DURATION OF AGREEMENT:

This Agreement shall come into force from the date of signing of this Agreement and shall remain operative for 35 years from the commercial operation date of the last unit of project provided that this Agreement may be mutually extended, renewed or replaced by another Agreement on such terms and for such further period of time as the parties may agree to. However, the provisions of this Agreement shall continue to operate till this Agreement is formally renewed, extended or replaced, in case Bulk Power Customer continue to get power from the Project even after expiry of this Agreement without further renewal or formal extension thereof.

13.0 NOTICES:

All notices required or referred to under this Agreement shall be in writing and signed by the authorities mentioned herein below unless otherwise notified. Each such notice shall be deemed to have been duly given if delivered, or sent by registered mail with an acknowledgement due to the other party.

a) TO NHPC

Executive Director (Comml.) / General Manager (Comml.) /
Chief Engineer (Comml.)
NHPC Ltd. ,NHPC Office Complex,
Sector-33, Faridabad-121003,
Haryana

With a copy to :

General Manager /
Chief Engineer of concerned Project

b) BY NHPC

Executive Director (Comml.) / General Manager (Comml.)/
Chief Engineer (Comml.)
NHPC Ltd. ,NHPC Office Complex,
Sector-33, Faridabad-121003,
Haryana



c) TO PDD, J&K

Chief Engineer (Commercial & Survey)
PDD, J&K
Gladni Grid Station,
Narwal, Jammu

d) BY PDD, J&K

Chief Engineer (Commercial & Survey)
PDD, J&K
Gladni Grid Station,
Narwal, Jammu

14.0 IMPLEMENTATION OF THE AGREEMENT;


The Tripartite Agreement signed between Govt. of India, Reserve Bank of India and State Govt. for settlement of SEB dues shall form an integral part of this Agreement. In case, any of the provisions of this Agreement are inconsistent with the provisions of the Tripartite Agreement, mentioned above, then the provisions of Tripartite Agreement shall prevail during the period of validity of the Tripartite Agreement.

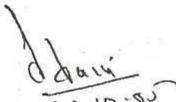
In WITNESS WHEREOF the parties have executed these presents through their duly authorised representatives caused on the day month and year first above written.

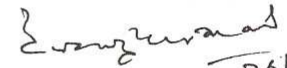
For and on behalf of
National Hydroelectric Power Corporation Ltd.

For and on behalf of
Power Development Department
Jammu and Kashmir

(S. I. G. S. L.)
CHIEF (COMM)
NHEPC, FARIDABAD
Witness


Asad Raza
Chief Engr.
Witness
S. I. G. S. L. & Operation
Srinagar.

1. 
26.10.05
Sr. Insp. (Comm.)

1. 
26/10/2005
F. A. M. Kirmari
Deputy Secretary,
J&K P.D.D.

Annex 8



एन एच पी सी

(भारत सरकार का उद्यम)
आई एस ओ-६००१ और १४००१

NHPC Lim

(A Govt. of India Enterprise)
ISO-9001 & 14001 Certified

27.11.

दिनांक/DATE

NH/R&D/318/244

संदर्भ सं./Ref. No.

M/S MGM International,
E-871(GF), Chittaranjan Park,
New Delhi-110 019

Sub: Monitoring of Surface area at full reservoir level for Nimoo Bazgo Hydro project.

Sir,

In reference to your email dated 27.11.2008 on the above subject, this is to intimate that as a standard practice, the surface area at full reservoir level shall be recorded at the start of the project for Nimoo Bazgo hydroelectric project.

Thanking you,

Yours faithfully,

(G. Baidya)
Chief Engineer (CDM)
NHPC Ltd.

Annex - 9
Revised PDD will be attached.