

GOVERNMENT OF UTTARAKHAND

POLICY FOR HARNESSING RENEWABLE ENERGY SOURCES IN UTTARAKHAND WITH PRIVATE SECTOR / COMMUNITY PARTICIPATION

1. PREAMBLE

Uttarakhand is richly endowed with natural renewable resources for generating electricity. Most of this could be harnessed through environmentally clean Medium & Large Hydroelectric Projects (i.e. projects with capacity in excess of 25 MW); it is estimated that a capacity of more than 20,000 MW is yet to be tapped through these sources.

In addition, the State has significant Renewable Energy (RE) Sources that includes sites for developing Micro (up to 100 KW), Mini (100KW-5 MW) & Small (5-25 MW) Hydro power projects) as well as sources for generating electricity through Biomass/Agro residue, Wind power, Solar energy, Cogeneration etc. This policy aims at expeditiously harnessing these sources of energy that are non polluting and are useful for electrification of isolated and remote habitations in Uttarakhand. It is felt that more than 1,000 MW electrical power could be tapped through these sources before 2020.

2. OBJECTIVE

To create conditions conducive to Private Sector/Community participation in power projects based on RE Sources in the State. In particular,

- 2.1 To harness the environment friendly RE resources and enhance their contribution to the socio-economic development of the State.
- 2.2 To meet and supplement minimum rural energy needs through sustainable RE projects.
- 2.3 To provide decentralized energy supply to agriculture, industry, commercial and household sector.
- 2.4 To improve the quality of grid power through such projects, as a consequence of tail-end generation and feeding.
- 2.5 To enhance the use of energy sources that assist in mitigating environmental pollution.
- 2.6 To support efforts for developing, demonstrating and commercializing new and emerging technologies in the RE sector and, to this end, help establish linkages with national and international institutions for active collaboration.
- 2.7 To create conditions conducive to the involvement of private investors in RE projects.
- 2.8 To create public awareness and involve users/local community along with their capacity building in establishing, operating and managing RE projects.
- 2.9 To create direct and indirect employment opportunities in the State.

3. MEASURES TO BE ADOPTED

In order to fulfill the above, the following measures are proposed to be adopted:

- Power generation through Hydro projects
- Co-generation in industries such as Sugar, Paper, Fertilizer and Chemical etc.
- Power generation from Biomass / Agricultural residue.
- Power generation from urban, municipal and industrial waste.
- Power generation from solar energy.
- Power generation from wind energy.
- Power generation from geothermal energy.
- Energy conservation in domestic, agriculture, industrial, commercial and transport sectors through induction of administrative/statutory/legislative/ technical solutions and imposing stringent conditions for all categories of consumers.

4. POTENTIAL PROPOSED TO BE HARNESSSED:

Given the geographical conditions of the State of Uttarakhand, and availability of various sources of energy, the State proposes to harness the resources with active involvement of private/public sector/ community participation in the following manner:

4.1 Hydroelectric Power:

By virtue of its topographic location, the State has a number of perennial streams where water is available throughout the year. The untapped potential that could be harnessed before 2020 through Micro/Mini/Small Hydro projects is about 600 MW. The State Government is committed to exploiting this potential.

4.2 Co-generation:

Uttarakhand has an established industrial base which is expanding. The Sugar, paper, fertilizer, chemical, textile and other industries have an estimated potential of about 220 MW that could be tapped by co-generation. This would not only augment the State's grid but would also help captive generation. This potential would also be exploited by the year 2020.

4.3 Biomass/Agro residue and waste :

It is estimated that about 20 million Metric Tons of agro residues and agro industrial/ processing waste is produced annually in Uttarakhand. It holds promising potential for generating decentralized power of about 300 MW. The State Government would support and facilitate harnessing this potential by 2020.

4.4 Urban, Municipal and Industrial Liquid /Solid Waste :

At present about 1000 Metric Tons of Municipal, Urban and Industrial solid/ liquid waste is being produced every day in the State. Introducing scientific processing and treatment of this waste

would lead to power generation along with abatement of environmental pollution. Initially a small number of such projects would be supported.

4.5 Solar Energy :

The State is endowed with vast potential of solar energy and the Government of Uttarakhand (GOU) is keen to tap this resource; the State would support efforts for setting up Solar based power projects.

4.6 Wind Power :

Sufficient untapped wind power potential is available in the State. There is immediate necessity for wind mapping in the State to assess and exploit the available potential. The State would support such programmes.

4.7 Geothermal Power :

Sufficient untapped geothermal power potential is available in the State. There is necessity for assessment of geothermal energy in the State to exploit the available potential. The State would support programmes for exploiting the available potential optimally.

4.8 Energy conservation :

Measures related to conservation of energy in domestic, commercial, agriculture and industrial sector could lead to 20% savings in energy consumption. The State Government is committed to introducing effective energy conservation measures in all sectors of economy. Energy auditing would be made mandatory in the State especially for industrial units where the load exceeds 25 kW. Appropriate mechanisms would be evolved for effective implementation of energy conservation measures.

5. INCENTIVES:

5.1 Sale of electricity: On the electricity generated by the RE projects, UPCL will have the first right of purchase; such purchases may be made in whole or part as per the requirement of UPCL. The price of electricity to be purchased by the UPCL will be determined by the UERC; the price so determined will be announced in advance and will be uniformly applicable to all producers. The GOU will provide guarantee for the payments to be made by the UPCL for such purchases.

5.2 Wheeling of electricity: UPCL/PTCUL will undertake to transmit through its grid the power generated and make it available to the producer for captive use or third party sale within/outside the State for which wheeling charges uniformly applicable to all producers would be announced in advance.

5.3 Banking: UPCL would extend the facility of Banking to the Developers at mutually agreed terms.

5.4 For evacuating energy from the generation site, requisite network of transmission/ distribution lines would be provided by UPCL/PTCUL.

5.5 In case of power generation from Municipal Solid Waste, if Government land (belonging to Urban Local Bodies/Panchayats) is available, the required land for setting up RE projects would

be provided on nominal lease rent of one rupee per square meter per year for a period of 33 years subject to further renewal on mutually agreed terms and conditions.

6. SINGLE WINDOW CLEARANCE FOR RE PROJECTS:

Setting up of RE projects involves sanctions/clearances from a number of Government Agencies/Departments. The State Government would provide requisite clearances in a time bound manner through a single window mechanism. For this purpose a high level empowered committee (composition at **Appendix**) is constituted to accord necessary approvals/clearances.

7. CLASSIFICATION OF PROJECTS:

Broadly, RE projects would be classified as

- (A) Hydro Projects (up to 25 MW)
- (B) Other RE Projects i.e. projects involving generation of power from co-generation, Biomass/Agro-residue, urban, municipal and industrial liquid/solid waste, wind, solar energy and including projects for energy conservation.

7(A) HYDRO PROJECTS :

(I.) Based on the generating capacity, Projects will be grouped into the following three categories:

- a) Micro Projects with capacity upto 100 kW,
- b) Mini Projects with capacity above 100 kW and upto 5 MW,
- c) Small Projects with capacity above 5 MW and upto 25 MW.

(II.) On the basis of the mode for identification, projects may be grouped into the following two categories:

- a) Self Identified Projects: Developers may identify projects, prepare the DPR and ask for allotment;
- b) State Identified Projects: The State or State Sponsored Agencies may identify projects of any size, prepare the DPR and allot it in the manner prescribed below.

Allotment of Hydro Projects :

Self Identified Projects:

Eligibility criteria

For Micro projects

- (i) Individuals who are domiciles of Uttarakhand,
- (ii) Gram Panchayats of Uttarakhand in the vicinity of the site,
- (iii) Societies of Uttarakhand registered under the Society Registration Act, 1860/UP Cooperative Society Act 1965

would be eligible for allotment.

For Mini projects

- (i) Individuals who are domiciles of Uttarakhand,
- (ii) Gram Panchayats of Uttarakhand in the vicinity of the site,
- (iii) Societies of Uttarakhand registered under the Society Registration Act, 1860/UP Cooperative Society Act 1965,

- (iv) Firms registered under the Company Act 1956 and having their manufacturing units located in Uttarakhand would be given preference for allotment of project.

For Small Projects

These would be open to all; there would be no reservations. For this premium will be decided later.

Evaluation criteria

For evaluating suitability of a prospective Developer, the following would be considered:

- a) Technical capability including past experience in developing, constructing or operating Energy Projects – this aspect would be evaluated based on a maximum of 60 marks;
- b) Financial capability, including the capacity to invest in the equity of the project and the ability to arrange for institutional finance. The minimum financial capability (Solvency Certificate to be provided) would be Rs.10.00 Lakhs and for Micro projects and Rs.50.00 Lakhs for Mini projects. Financial capability would be evaluated based on a maximum of 40 marks.

Payments to be made:

All payments would be made in the form of a Bank draft of any Nationalized Bank.

Application fee (Non-refundable): Rs.5000/-

Processing fee (Non-refundable): At the time of signing the Development Agreement

- ◆ For Micro projects: Rs. 10,000/-.
- ◆ For Mini projects : Rs. 25,000/-.
- ◆ For Small projects: Rs. 50,000/-

Security payment: At the time of signing the Implementation Agreement

- ◆ For Micro projects: Rs.20,000/-.
- ◆ For Mini projects: Rs.50,000/-.
- ◆ For Small projects: Rs. 1,00,000/-

State Identified Projects:

Small Hydro projects would be allotted on the basis of open competitive bidding (without any reservation).

Eligibility and evaluation criteria;

Eligibility and Evaluation parameters shall be provided in the Request For Qualification (RFQ)/Request For Proposal (RFP)/ bidding documents.

Allotment Procedure:

The identified projects would be advertised in order to seek bids. Selection of Developers would follow a two-stage process.

- i Prequalification:** Firstly, the applicants would be evaluated on the basis of pre-qualification criteria laid down in the RFQ document which will be made available on payment of a prescribed fee. Broadly, prequalification criteria would be based on balance sheet, annual report, technical and financial capacity etc. After evaluations, a short list of successful applicants would be prepared.
- ii Financial bid:** Applicants short-listed on the basis of prequalification criteria would be invited to submit their financial bids based on premium payable to the Government of Uttarakhand. For this purpose the following thresh-hold premium is prescribed (bids quoting premium below the thresh hold would be rejected out rightly):
 - ◆ Above 2 MW & upto 5MW: Rs.100,000/- per MW
 - ◆ Above 5MW & Up to 25 MW: Rs.5,00,000/- per MW
- iii** A project will be allotted to the short-listed bidder who has offered the highest bid. The successful bidder shall be required to deposit the premium and other amount due within the time specified in the bid document.
- iv** Complete transparency in allotment of the projects shall be ensured. Comprehensive RFQ/RFP/bidding documents would be prescribed for inviting bids clearly enumerating technical and financial parameters.

7(B) OTHER RE PROJECTS :

Other RE Projects would be kept open for all categories of developers and these would be allotted on self identification basis or, wherever possible, on tariff based bidding.

The procedure for tariff based bidding would be prescribed separately. The Self Identified Projects would be allotted on the basis of the following:-

Evaluation Criteria:

For evaluating suitability of a prospective Developer of a Self Identified Projects, the following would be considered:

- a) Technical capability including past experience in developing, constructing or operating Energy Projects – this aspect would be evaluated based on a maximum of 60 marks;
- b) Financial capability, including the capacity to invest in the equity of the project and the ability to arrange for institutional finance. Financial capability would be evaluated based on a maximum of 40 marks.

Payments to be made:

All payments would be made in the form of a Bank draft of any Nationalized Bank.

Application fee (Non-refundable): Rs.5000/-

Processing fee (Non-refundable): At the time of signing the Development Agreement

- ◆ For projects upto 1MW: Rs.10,000/-.
- ◆ For projects more than 1MW : Rs.25,000/-.

Security payment: At the time of signing the Implementation Agreement

- ◆ For projects upto 1MW: Rs.20,000/-.
- ◆ For projects more than 1MW: Rs.50,000/-.

8. Benefits Under Clean Development Mechanism (CDM)

Projects covered under this policy may not involve cheapest form of generating energy. However, keeping their environment friendly nature, the State would encourage projects to obtain the benefits available under the Clean Development Mechanism (CDM).

9. MISCELLANEOUS

- 9.1** Not more than three Projects in each category enumerated in paragraphs 4.1 to 4.8 will be allotted to a Developer.
- 9.2** Industrial units located in Uttarakhand and willing to participate in the open competitive bid for the purpose of establishing RE projects for their captive use, would be given preference by accepting their bids provided these are not less than 80% of the highest bid.
- 9.3** The Government of Uttarakhand reserves its rights to allot a project to a State owned enterprise.
- 9.4** If a feasible Micro/Mini Hydro project remains un-allotted on the basis of the procedure prescribed in this Policy, the same would be allotted to any developer through open competitive bidding, the procedure for which would be laid down separately.
- 9.5** In the event a Developer fails to achieve the various stages of completion of the allotted project as per the prescribed time schedule without valid reasons, the premium deposited shall be forfeited and the allotment would be cancelled.
- 9.6** Projects allotted before the date of publication of this Policy in the Official Gazette shall continue to be governed by the Policy under which they were allotted; these would not be eligible for incentives under this Policy.
- 9.7** In case of augmentation of capacity of Self Identified Projects due to any reason, the developer would be required to pay additional premium of Rs.1 Lakh per MW or fraction thereof for enhancement upto 5 MW and Rs.5 Lakh per MW or fraction thereof in case of enhancement beyond 5 MW along with requisite amount to take into effect the inflation from the date the premium was paid. For State Identified Projects allotted on the basis of open competitive bidding, the extra premium to be paid would be calculated on the basis of a formulation to be specified separately.
- 9.8** In case any developer, for any reason (before a project is commissioned), sells his project to some other developer, the developer selling the project shall be required to deposit an additional amount equal to the bid premium.
- 9.9** Projects would be offered for a period of 40 years from the date of award at the end of which they shall revert to the GOU or extended further on mutually agreed terms.
- 9.10 Royalty :**
- (i) On Micro, Mini and Other RE projects governed by this policy, no royalty payment would be charged.
 - (ii) On Small Hydro projects governed by this policy, royalty payment for the first 15 years of operation would be exempted. From 16th year of operation, a royalty @ 18% of energy generated would be charged.

10. AMENDMENTS/ RELAXATION/ INTERPRETATION OF PROVISIONS OF THE POLICIES:

GOU shall have all powers to amend/ relax/ interpret provisions under the policy.

11. APPLICABILITY:

This Policy would become effective from the date of its notification in the Official Gazette of GOU.

Appendix

CONSTITUTION OF EMPOWERED COMMITTEE

Composition of Empowered Committee:

The Empowered Committee of Administrative Secretaries for according approvals/ clearances is constituted as under:

- | | |
|---|-----------------|
| 1. Chief Secretary, Government of Uttarakhand | - Chairman |
| 2. Additional Chief Secretary, GOU | - Vice Chairman |
| 3. Principal Secretary/ Secretary, Dept. of Energy, GOU | - Member |
| 4. Principal Secretary/ Secretary, Dept. of Finance, GOU | - Member |
| 5. Principal Secretary/ Secretary, Dept. of Irrigation, GOU | - Member |
| 6. Principal Secretary/ Secretary, Dept. of Forest, GOU | - Member |
| 7. Principal Secretary/ Secretary, Dept. of Industry, GOU | - Member |
| 8. CMD/MD, Uttarakhand Power Corporation Limited. | - Member |
| 9. CMD/MD, Uttarakhand Jal Vidhyut Nigam Limited. | - Member |
| 10. CMD/MD, PTCUL | - Member |
| 11. Vice President, UIPC | - Member |
| 12. Director, UREDA | - Convener |

The Committee may co-opt other Secretaries/State Government officials and experts as and when required.

POLICY FOR THE DEVELOPMENT OF HYDROPOWER IN UTTARANCHAL THROUGH PROJECTS OF CAPACITY OF 25 MW AND LARGER

1. SCOPE AND OBJECTIVES OF HYDROPOWER DEVELOPMENT IN UTTARANCHAL

Uttaranchal has a hydropower potential of the order of 15,000 MW against which only 1124 MW has been harnessed so far. Keeping in mind the national objective of increasing power generation through environmentally appropriate means, and the target of 3000 MW for the hydropower sector in the 10th Plan period, the Government of Uttaranchal (GoU) has framed a hydropower policy as below. The objectives of this policy are to attract investors for the development of the State's water resources in an environment-friendly manner, and to generate revenues for the State from development of its hydel resources while ensuring project viability

2. PARTICIPATION & OPERATIVE PERIOD

This policy shall be in operation from the date of its publication as notified by Government Order. All projects awarded within this period under this policy will be governed by this policy for their entire duration.

All Hydropower projects/stations estimated to have an installed capacity of 25 MW and larger shall be eligible under this policy. The identified potential for further hydropower projects of a capacity larger than 25MW, which is being offered under this policy is about 509 MW at 13 identified locations as at Annexure A. As and when further sites are identified/investigated, they will be brought within the purview of this policy.

Uttaranchal invites any qualified, non-Uttaranchal State government agency to bid for identified projects for the development of this sector. These will be termed as Independent Power Producers (IPP). This would include any Private sector entities, Central power utilities, State Governments or any other Government entities and their Joint Ventures.

3. PREQUALIFICATION

There shall be a pre-qualification by the GoU of the bidders for the projects in the state based on a) past experience with development, construction and operations of hydro projects or other power sector experience and b) financial capacity to mobilise required resources and bring in or raise their equity contribution. The applicants will have to qualify on both these counts to be pre-qualified for the competitive bidding process for project allotment. The weightage to be given to the sub-categories of these attributes to be evaluated, the guidelines for evaluation and the passing score on attributes/in aggregate required for pre-qualification shall be specified in the bid documents inviting bids for pre-qualification.

4. PROJECTS

4.1 The list at Annexure A identifies projects available for development with indications of estimated capacities, and for which development of pre-feasibility studies is in progress. The Uttaranchal Jal Vidyut Nigam Ltd. (UJVNL) will undertake to prepare the pre-feasibility studies in a time bound manner. The evacuation requirements including details of nearest sub-station will be specified in the pre-feasibility studies.

- 4.2 The GoU shall stipulate for each project, as part of the bid conditions, a maximum number of years for completion of the project implementation ie. outer limit for project completion, which would be binding on all bidders.
- 4.3 The projects shall be offered for a period of forty five (45) years from the date of the award at the end of which they shall revert to the Government of Uttaranchal or extended further on mutually agreed terms, as per the decision of the Government of Uttaranchal.
- 4.4 The project assets would be maintained by the successful concessionaire in a condition that would ensure a residual life of the project at the rated capacity for at least 30 years at any point of time. During the 10th, 20th, 30th and 40th years of operations, as well as during the last year of concession, the GoU or one of its appointed agencies would carry out a mandatory inspection of the project site to ensure that the project assets are maintained to the required standards to ensure the specified generation capability and residual life of the plant.
- 4.5 If such inspections find that the plant capacity and/or life are being undermined by inadequate maintenance, the GoU would be entitled to seek remedial measures from the concessionaire. If the concessionaire fails to comply with the requirements, the GoU would have the right to terminate the concession by payment of compensation to be computed as follows. The termination compensation value would be based on estimated net cash flows to equity shareholders for the next ten years or residual period of concession, whichever is lesser, discounted at a suitable rate. Both the estimate of cash flows as well as the discount rate would be approved by the Electricity Regulatory Commission of Uttaranchal (ERCU) which will also factor the costs of refurbishment, renovation, repairs, etc. required to bring the project assets to the standards specified.
- 4.6 All projects would need to conform to the R&R policy of the GoU, which would be made available prior to the bidding process.

5. PROCESS OF ALLOTMENT

- 5.1 The sites shall be advertised in order to seek potential bidders. Applications should be accompanied by a non-refundable draft of Rs. 5 lakhs, payable to the Uttaranchal Jal Vidyut Nigam (UJVNL).
- 5.2 All interested parties will be subject to pre-qualification as provided in Paragraph 3.
- 5.3 All pre-qualified bidders will be provided with the pre-feasibility studies prepared by the UJVNL.
- 5.4 Bids shall be invited for premium payable upfront to the Government of Uttaranchal per MW in the case of each project/site, subject to a minimum threshold premium of Rs. 5 lakhs per MW. Bids received beneath the threshold premium will be rejected.
- 5.5 Projects will be allotted to the bidders making the highest bids. The successful bidder shall be required to deposit the premium /other amount due within a reasonable period of receiving intimation regarding his bid being successful. The exact time period shall be specified in the bid documents for invitation of bids. The successful bidder, however, may be permitted to provide 50% of the bid amount in excess of the threshold as a bank guarantee encashable at the time of actual or scheduled financial closure, whichever is earlier. The proportion of bank guarantee may be modified by the GoU prior to bidding, if required.
- 5.6 If there is more than one identical bid which emerges as the best bid for any site/station, a gradation list based on a simple average of the technical and financial scores in the pre-qualification criteria shall be the basis for allotment.

5.7 In case of any project failing to attract any acceptable bids despite being bid out the GoU may consider allotting the site to a GoU agency.

6. SALE OF POWER

The IPP can contract to sell power to any consumer/s outside Uttaranchal, to the Uttaranchal Power Corporation Ltd. (UPCL), or for the captive use of new industrial consumers in Uttaranchal. The UPCL will specify the conditions under which any consumer or group of consumers is deemed to be a captive user. Sales to the UPCL will be mutually negotiated and approved by the ERCU.

7. WHEELING CHARGES

The infrastructure and facilities of UPCL will be made available to all IPPs for wheeling the generated energy. Wheeling charges for wheeling the generated energy outside the State and to captive users within the State will be as determined by the ERCU. However, for those projects which are bid out prior to the determination of this rate by the ERCU, a the wheeling charge (for the entire concession period) would be 10% of net energy supplied at the interconnection point. The wheeling charges will be payable to the UPCL, and will include compensation for all costs, infrastructure charges and losses that may be incurred by the UPCL. The UPCL will prepare a standard wheeling agreement draft consistent with this policy statement. This will be made available prior to any bidding for projects. No wheeling charges are applicable in cases of sales to the UPCL.

8. GRID INTERFACING/TRANSMISSION LINE

8.1 The IPP shall be responsible for laying lines for connectivity to the nearest grid sub-station at the appropriate voltage, which will be 132 kV or higher depending on the capacity of the power station and distance from the power station to the Grid. UPCL will determine the specifications for the evacuation facilities required. This would be specified for each project prior to the bidding for the project.

8.2 For certain projects where the evacuation costs are very high, the GoU may agree to finance a part of the costs, the quantum and terms of which shall be made available as part of the pre-bid information.

8.3 For certain projects where the infrastructure costs like access roads, bridges, etc. are very high, the GoU may decide to share such costs with the IPP. The likely extent of GoU sharing of infrastructure costs would be indicated as part of the pre-bid information.

8.4 IPPs would be free to structure the evacuation facilities in a different company if they so desire.

9. BANKING

No banking of power will be permitted.

10. TAXES, & ROYALTY & OTHER CHARGES

10.1 On all projects governed by this policy, for the first 15 years, royalty at the rates of 12 % of net energy wheeled (after deducting wheeling charges) or supplied directly without wheeling would be charged. Beyond the 15th year of operation, a royalty of 18 % of net energy wheeled or supplied directly without wheeling will be made available to the GOU free of charge by all IPPs.

10.2 No further levies, taxes, charges other than those stipulated in this policy would be levied by the State Government and its agencies or the Regulator on the IPPs governed by this policy, for a period of ten years from the date of this policy.

11. INCENTIVES BY STATE GOVERNMENT

11.1 No entry tax will be levied by the State Government on power generation, transmission equipment and building material for projects.

11.2 As part of bid conditions, GoU could offer select projects an option to defer royalty payments of the first 8 years of project operation with the condition that the deferred royalty shall be valued at the weighted average sales realisation of UPCL per unit of input power fed into UPCL's grid system at 132 KV and below. The deferred royalty would be recovered from the project company by GoU from the 9th to the 15th year and will attract interest at the rate of 12.5 % per annum applicable at six monthly intervals on the total outstanding amounts. The project company would have the option to avail of such deferment or have the flexibility to structure partial royalty deferment or for shorter periods with quicker repayment, if it so desires, within six months of achieving financial close. The deferred royalty dues to GoU would be secured by a charge on the assets and cash flows of the IPP, which would however be subordinated to the charge of senior lenders and working capital bankers to the IPP.

12. TRANSFER OF ALLOTMENT

Free transfer of shares will be permitted in the companies allotted projects as per the procedure laid down in this document.

13. TIME LIMIT FOR EXECUTING THE PROJECT

13.1 IPP shall prepare and submit the detailed project reports and all other information and make the necessary applications for obtaining the statutory clearances and approvals of the state and central governments and the regulator (as applicable) after carrying out the required confirmatory surveys and investigations as per prevailing regulations/norms within 3 years from the date of allotment. The IPP shall be responsible for ensuring completeness of all submissions to concerned authorities. Failure to do so within the stipulated time frame shall be treated as non-compliance with the requirement stipulated in this paragraph.

13.2 The IPP shall achieve the financial closure within 1 year from the date of receipt of all statutory approvals and clearances given by the State and Central governments. Financial closure would imply firm commitments for financing the entire project, with all pre-disbursement conditions having been fulfilled.

13.3 The GoU shall stipulate for each project, as part of the bid condition, a maximum number of years for completion of the project implementation. The project shall be made operational within this time-frame.

13.4 The failure to reach any of the milestones mentioned in 13.1 or 13.2 above will result in automatic cancellation of the allotment of the site, and forfeiture of any up front premium amounts paid. No compensation would be payable to the IPPs in such instance.

13.5 Failure to reach the milestone as in 13.3 above, after project has commenced construction, would result in a liability to pay a penalty by the IPP to the GoU, computed at the equivalent royalty revenue that would have been payable to the GoU had the project met the milestone.

If the project has failed to start construction even after lapse of the timeframe in 13.3 above, it would result in automatic cancellation of the allotment of the site, and forfeiture of any up front premium amounts paid. No compensation would be payable to the IPPs in such instance.

- 13.6 The IPP may surrender the allotment back to GoU if on completion of the DPR, within the stipulated time-frame, it has grounds to establish that the project is not techno-economically viable. On such surrender, the bank guarantees provided by the IPP in lieu of upfront premium would be released and any premium amount paid in excess of the threshold premium of Rs. 5 lakhs / MW, would be refunded to the IPPs by the GoU.

14. ROLE OF UJVNL

The GoU would facilitate projects through UJVNL, which will be responsible for the following, with regard to project facilitation:

- (i) Carrying out data collection and preparation of preliminary techno-economic study to obtain reliable basic data on the project required to attract bidders,
- (ii) Carrying out preliminary survey to, prima facie, identify the extent of environmental and social issues likely to be involved in a project prior to bidding
- (iii) Obtaining through the PTC an assessment of market situation and potential buyers for each project,
- (iv) Marketing the project sites to attract bidders,
- (v) Assisting projects in obtaining the necessary project clearances from the State Government agencies in a time-bound manner,
- (vi) Monitoring the development of allotted projects/ and of delivery as per time schedules.
- (vii) UJVNL may also facilitate projects and participate in their equity (as a minority holder) or provide other assistance to any of the bid projects to facilitate financial closure or implementation. However, such assistance by UJVNL would be mutually negotiated between the allottee and UJVNL after the allotment is made and would not be mandatory on UJVNL. UJVNL participation as a joint venture partner would be subject to Board and Shareholders approval, and no pre-conditions relating to UJVNL joint venture participation can be attached to bids received

15. ROLE OF UPCL

The UPCL will be responsible for the preparation of wheeling agreements (Para 7) and assessment of evacuation requirements (Para 8).

16. REGULATORY OVERSIGHT

Aspects of this policy that require Regulatory approvals from the concerned regulator, would be subject to such approvals being given and would apply in the manner approved by the Regulator.

17. DUE DILIGENCE

The applicant/IPP shall be responsible for carrying out due diligence with regard to his compliance responsibilities under various applicable Central/State/other laws, rules and regulations, and ensure compliance with the same.

18. POWER TO RESOLVE DIFFICULTIES

In the event of a dispute, the interpretation of these guidelines made by the Government of Uttaranchal shall be final. In all such matters, to the extent practicable, an opportunity shall be given to affected stakeholders to be heard, before the Government takes any decision.

Annexure A

List of Hydro Power Projects 25-100 MW

No.	Project	Valley	River	Type	Capacity
1	Barkotkuwa	Yamuna	Yamuna	ROR	30MW
2	Hanuman Chatti Siana Chatti	Yamuna	Yamuna	ROR	33MW
3	Devramori	Yamuna	Tons	ROR	27MW
4	Mori Hanol	Yamuna	Tons	ROR	27MW
5	Markura Lata	Ganga	Dhauliganga	ROR	45MW
6	Sianachatti Gangani	Yamuna	Yamuna	ROR	45MW
7	Chunni Semi	Ganga	Pinder	ROR	26MW
8	Singoli Bhatwari	Ganga	Mandakini	ROR	50MW
9	Bagoli Dam	Ganga	Pinder	Reservoir	64MW
10	Padli Dam	Ganga	Pinder	Reservoir	27MW
11	Sheraghat Dam	Saryu	Saryu	Reservoir	45MW
12	Eastern Ram Ganga Dam	Ramganga	Ramganga	Reservoir	45MW
13	Hanol Tiuni	Yamuna	Tons	ROR	45MW

POLICY FOR THE DEVELOPMENT OF HYDROPOWER IN UTTARANCHAL THROUGH PROJECTS OF CAPACITY OF 100MW AND LARGER

PROJECT ABOVE 100 MW CAPACITY.

1. SCOPE AND OBJECTIVES:

The State of Uttaranchal has an identified Hydro power potential of about 15000 MW. Out of this generating capacities of about 1100 MW have already been established. Projects totaling to a capacity of about 7900 MW are in the pipeline. The Government of Uttaranchal (GOU), recognising the fact that the hydro power potential of the state needs to be harnessed to the maximum in the shortest possible time for the economic development of the state and for meeting the energy demand of the country, has accorded top priority to this sector. As a result thereof, a number of Projects in Central sector, State sector and Private sector are being set up in the State. A policy for private sector investment in the Hydropower projects ranging for 0 to 100 MW has already been announced on 19-10-2002. There are a number of sites where hydropower project of the capacities larger than 100 MWs can be established. To attract private investment for the development of such projects and as a sequel to the policy of 19-10-2002, the Government of Uttaranchal has decided to announce this policy.

2. PARTICIATION AND OPERATIVE PERIOD:

- 2.1 This policy shall be in operation from the date of its publication as notified by Government order. Projects, above the capacity of more than 100 MW offered by GOU for private investment will be eligible under this policy and will be governed by this policy for their entire duration.
- 2.2 The GOU will invite proposals from private sector investors for development of identified sites. The preliminary project profiles of the identified sites will be made available to the investors before the process of competitive bidding.

3. PRE-QUALIFICATION:

For each identified site, which will be notified by the GOU from time to time, there shall be a pre-qualification selection of the bidders based on their past experience and financial and technical capacity. The applicants qualifying in the pre-qualification selection will be eligible for competitive bidding. Each attribute set for pre-qualification will be evaluated. Guidelines for evaluation and the passing score on attribute required for pre-qualification shall be specified at the time of inviting proposal for pre qualification.

4. PROCESS OF ALLOTMENT

- 4.1 Project identified by the Government of Uttaranchal shall be advertised for inviting international bids. All interested parties will be subject to pre qualification as provided in Para-3, above.
- 4.2 Application should be accompanied by a non-refundable draft of Rs.5.00 lacs, payable to GOU or its designated agency.
- 4.3 Bids shall be invited over a minimum premium, payable upfront to the Government of Uttaranchal, at the rate of Rs. 5 (Five) Crores per project. Project will be allotted to bidders

making the highest bid over and above the upfront minimum premium. Bids below the minimum premium shall not be considered.

- 4.4 Project will be allotted to the highest bidders. The successful bidder shall be required to deposit the minimum premium and 50% of the bid amount in excess of the minimum premium within the period fixed by the Government in this behalf. For the remaining fifty percent (50%) of the bid amount in excess of the minimum premium, the bidder may be permitted to provide a bank guarantee encashable at the time of actual or scheduled financial closure, whichever is earlier.
- 4.5 If there are two or more identical bids which emerge as the best bids for any project, allotment will be made on the basis of the average score obtained in valuation of the pre qualification among the identical bidders.
- 4.6 After the allotment the allottee/developer shall have to sign a project development agreement with GOU within the period fixed by GOU (Three month) for preparation of detailed project report (DPR) within a prescribed time frame. After the DPR is accepted/approved by GOU, the allottee/ developer shall have to sign an implementation agreement with GOU which shall *interalia* include time schedule for getting necessary legal/administrative/technical approvals, financial closure, construction/commissioning etc. of the project.
- 4.7 In the events of inability of preparing a viable DPR or getting legal/administrative/technical approvals after the completion of the above mentioned fixed period the project will revert back to GOU and the allotment shall be treated cancelled automatically. In such a case no compensation will be payable to the allottee and the amount paid by allottee shall vest in the GOU.

5. TERMS OF ALLOTMENT OF THE PROJECT

- 5.1 Project will be allotted for an initial period of 45 years. Extension for further period (s) can be given on the terms & conditions to be decided mutually. After the expiry of the initial period or the extended period, as the case may be, the project will revert back to the Government of Uttaranchal.
- 5.2 The project assets would be maintained by the developer in a condition that would ensure a residual life of the project at the rated capacity for at least 30 years at any point of time. During the 10th, 20th, 30th, and 40th years of operations as well as during the last year of allotment, Govt. of Uttaranchal or one of its appointed agencies would carry out a mandatory inspection of the project to ensure that the project assets are maintained to the required standards to ensure the specified generation capability and residual life of the plants.
- 5.3 If such inspections find that the plant capacity and/or life are being undermined by inadequate maintenance, the GOUA would be entitled to seek remedial measures from the concessionaire. If the concessionaire fails to comply with the requirements, the GOUA would have the right to terminate the concession by payment of compensation to be computed as follows. The termination compensation value would be based on estimated net cash flows to equity shareholders for the next ten years or residual period of concession, whichever is lesser, discounted at a suitable rate. Both the estimate of cash flows as well as the discount rate would be approved by the Uttaranchal Electricity Regulatory Commission (UERC) which will also factor the costs of refurbishment, renovation, repairs, etc. required to bring the project assets to the standards specified.
- 5.4 All projects would need to conform to the R&R policy of the GOUA.

6. SALE OF POWER

The developer of the project will have the right to sell the power outside the State. No agency of the State will guarantee purchase of power. If anytime the state requires additional power, the concerned organisation of the State, may purchase electricity from the project on terms and conditions to be decided mutually by the developer and the concerned agency.

7. ROYALTY

7.1 Twelve percent (12%) of electricity generated shall be made available free of cost to the State during the entire life of the Project. This free power will be in addition to the amounts received at the time of allotment.

7.2 Completion of the project prior to the scheduled date as contained in the implementation agreement will attract incentive to the developer. This incentive will be decided on the basis of a rebate of one percent (1%) per year on the 12% free power for each year of earlier completion. Likewise delay in completion will also entail penalty of one percent (1%) for one year over and above the 12% free power for each year of delay. However, in case the delay in completion is formore than three years the allotment of the Project may be cancelled.

7.3 Electricity duty shall be applicable as per law.

8. POWER EVACUATION:

The developer may build his own evacuation system or get the same constructed through the Transmission/Distribution Corporation of the State/Power Grid Corporation of India. If the evacuation system is constructed by the undertaking of the State, the same will be developed as a commercial venture. In this case or in the case of utilization of existing evacuation system, wheeling charges, as determined by the Central Electricity Regulatory Commission or Uttaranchal Electricity Regulatory Commission, will be payable by the developer to the State Corporations/Central utility.

9. DISPLACEMENT/REHABILITATION:

The developer of the project shall be liable for the rehabilitation of the displaced persons from the project area and the cost of the same shall be included in the project cost. The State Government will provide necessary assistance to the developer in implementation of R&R Plan.

10. INFRASTRUCTURE:

The necessary infrastructure for the construction/development of the project will be part of the project cost and will be developed by the developer.

11. INCENTIVE FROM STATE GOVERNMENT:

No entry tax will be levied by the State Govt. on building material, power generation/transmission equipment during construction of the project.

12. OTHERS:

- 12.1 State Govt. will provide necessary assistance for required approvals/clearances and other related matters. For clearances/approvals from the State Government and its concerned agencies, an empowered committee or a nodal agency will be nominated.
- 12.2 If any report/data etc. relating to the project are made available to the developer by the State Government Department/Corporations, the cost incurred in preparation of such documents will be paid by the developer.

GOVERNMENT OF INDIA

POLICY ON HYDRO POWER DEVELOPMENT

1. Need for a Hydel Policy

Hydro power is a renewable economic, non polluting and environmentally benign source of energy. Hydro power stations have inherent ability for instantaneous starting, stopping, load variations etc. and help in improving reliability of power system. Hydro stations are the best choice for meeting the peak demand. The generation cost is not only inflation free but reduces with time. Hydroelectric projects have long useful life extending over 50 years and help in conserving scarce fossil fuels. They also help in opening of avenues for development of remote and backward areas.

Our country is endowed with enormous economically exploitable and viable hydro potential assessed to be about 84,000 MW at 60% load factor (1,48,700 MW installed capacity). In addition, 6781.81 MW in terms of installed capacity from small, mini and micro hydel schemes have been assessed. Also, 56 sites for pumped storage schemes with an aggregate installed capacity of 94,000 MW have been identified. However, only 15% of the hydroelectric potential has been harnessed so far and 7% is under various stages of development. Thus, 78% of the potential remains without any plan for exploitation.

Despite hydroelectric projects being recognised as the most economic and preferred source of electricity, share of hydro power has been declining steady since 1963. The share of hydro power has been continuously declining during the last three decades. The hydro share has declined from 44 percent in 1970 to 25.75:23:2 percent in 1998. The ideal hydro thermal mix should be in the ratio of 40:60. Because of an imbalance in the hydel thermal mix especially in the Eastern and Western regions, many thermal power stations are required to back down during off peak hours. The capacity of the thermal plants cannot be fully utilised resulting in a loss of about 4 to 5 percent in the plant load factor. Even if the share of hydro power is to be maintained at the existing level of 25 percent, the capacity addition during the 9th and 10th Plan would work out to 23,000 MW. If the share were to be enhanced to 30 percent, it would require a further addition of 10,000 MW of hydro capacity.

The constraints which have affected hydro development are technical (difficult investigation, inadequacies in tunnelling methods), financial (deficiencies in providing long term financing), tariff related issues and managerial weaknesses (poor contract management). The hydro projects are also affected by geological surprises especially in the Himalayan region where underground tunnelling is required), inaccessibility of the area, problems due to delay in land acquisition, and resettlement of project affected families, law & order problem in militant infested areas.

2. Objectives

The programmed capacity addition from hydel projects during the 9th Plan is 9815 MW, of which Central Sector and State Sector will contribute 3455 MW and 5810 MW respectively and the balance 550 MW will be contributed by the Private Sector. Sanctioned and ongoing schemes under implementation will enable a capacity addition of 6537 MW during the 10th Plan, of which 990 MW, 4498 MW and 1050 MW will be the contribution of Central, State and Private Sectors respectively. In addition, 12 projects (5615 MW) have been identified for advance action in the 9th Plan for benefits in the 10th Plan.

The Government of India has set the following objectives for accelerating the pace of hydro power development : -

(i) Ensuring Targeted capacity addition during 9th Plant :

The 9th Plan programme envisages capacity addition of 9815 MW from hydel projects in the total capacity addition of 40245 MW. The Central Sector hydel projects would contribute 3455 MW, State Sector would add 5810 MW and Private Sector 550 MW. Keeping in view that the achievement in 8th Plan had been dismal, the Government is determined to ensure that no slippage is allowed to occur and the targeted capacity addition in the 9th Plan is achieved in full.

(ii) Exploitation of vast hydroelectric potential at a faster pace :

The Government would initiate advance action for taking up new hydro projects since the ongoing projects will contribute a very small percentage of the desired capacity addition envisioned for 10th Plan and beyond. Towards this end, Government would take up for execution all the CEA cleared projects, and take steps to update and obtain clearances for pending DPRs. Measures for vigorously starting survey and investigations for new green field sites would also be implemented shortly. In addition, Government is keen to restart and activate the hydro projects which are either languishing for want of funds or are remaining dormant due to unresolved inter-State issues.

(iii) Promoting small and mini hydel projects

Small and mini hydel potential can provide a solution for the energy problems in remote and hilly areas where extension of grid system is comparatively uneconomical and also along the canal systems having sufficient drops. The small hydro potential could be developed economically by simple design of turbines, generators and the civil works. Small and mini hydel capacity aggregating to about 340 MW is in operation, and Government is determined to provide thrust for developing the assessed small hydel potential at a faster pace henceforth.

(iv) Strengthening the role of PSUs/SEBs for taking up new hydel projects

In view of the poor response of the private sector so far in hydro development which may persist for some more years, the involvement of public sector in hydel projects would not only have to continue but will also have to be enlarged. There are categories of projects such as multi-purpose, projects involving inter-State issues, projects for peaking power and those involving rehabilitation and resettlement which may be taken up and implemented more easily in public sector. Similarly, mega hydro projects in the North and North Eastern region would also have to be executed by CPSUs in case the State or the private sector is not in position to implement these projects.

(v) Increasing private investment :

Even though public sector organisations would play a greater role in the development of new schemes, this alone would not be adequate to develop the vast remaining hydro potential since it will require huge investments which are difficult to be supported from the budget/plan assistance in view of competing demands from the various sectors. A greater private investment through IPPs and joint ventures would be encouraged in the coming years and required atmosphere, incentives and reliefs would be provided to stimulate and maintain a trend in this direction.

3. Policy Instruments

To achieve the above stated objectives for faster development of hydro potential, the Government proposes to take the following steps and measures :-

3.1 Funding

All the ongoing Central Sector hydroelectric projects namely Nathpa Jhakri (1500 MW), Tehri Stage I (1000 MW), Ranganadi State I (405 MW), Dulhasti (390 MW), Dhauliganga (280 MW), Doyang (75 MW) and Rangit (60 MW) would be provided with full budgetary support till completion. Government of India will also provide budgetary support for the new projects to be taken up by the CPSUs during the 9th Plan. The actual utilisation of the funds on the ongoing Central Sector hydel projects has been Rs. 1616.87 crores in 1997-98 and the budget provision for 1998-99 has been increased to Rs. 2070 crores. Therefore the remaining three years of the 9th Plan would require about Rs. 5896 crores on the ongoing Central Sector projects (excluding NEC projects). Having regard to the large capacity addition envisaged in the State Sector (5810 MW) it is necessary to (a) provide a mechanism for funding hydro projects by earmarking funds in the plan allocation of the State Governments by the Planning Commission ; and (b) organising supplementary funding of hydel projects where more than 50 percent of the expenditure has already been incurred.

The monitoring of all the ongoing projects will be intensified and a task force would be constituted for this purpose. The progress of important projects in the State and Central Sector would be reviewed at the level of Minister/Secretary (Power) and all measures will be taken so that there is no slippage in the schedule for completion of the ongoing projects.

3.2 Power Development Fund

The survey and investigation of hydro projects have been discontinued since long in the States due to paucity of funds. As a result, there are not enough projects right now that could be taken up in the next 2 to 3 years and get completed in the 10th Plan or early 11th Plan. It is necessary to carry out survey and investigations continuously and prepare a shelf of projects of execution over a decade and more.

In case fully investigated projects with Detailed Project Reports are offered to private developers, their response could be more favourable. If pre-construction activities and enabling works could be completed and these sites offered to IPPs the chances of IPPs opting to invest in these projects would further improve. Further this would reduce the gestation period which would make investment in hydro projects more attractive.

The above approach is possible and successful only if a dedicated fund is available for this purpose.

It is proposed to levy a Power Development Cess at 10 paise per kWh of electricity consumed in the country. The levy of cess was recommended by the Sub Committee of the NDC Committee on power which gave its report in January, 1994. The cess would be levied on the electricity billed by SEBs/Electricity Departments/Bulk licensees/Distribution licensees. The State/UT Governments would be responsible for the collection of the cess. The amount would thereafter be credited to a "National Power Development Fund. It is expected that about Rs. 3000 crores per annum can be realised by levying a cess of 10 paise per kWh.

It would be necessary to establish a legal and organisational frame work for levy of a cess. Electricity being a Concurrent Subject, the Central Government is empowered to legislate on all aspects of electricity including the levy of cess, the proceeds of which is to be utilised for power development. In order to levy a power development cess, it would be necessary for parliament to enact a legislation on the subject. The cess will be imposed on the consumption of electricity throughout the country. The State Electricity Boards will be the responsible agencies for the collection of cess. The proceeds of the cess will be shared with the State/UT governments and the Central Government. Two-thirds of the amount realised from the State/UT Government will be allocated to the respective government to be utilised for power development. This amount would be released from the National Power Development Fund for financing schemes/projects recommended by the State Government. The remaining one-third will be utilised by the Central Government

for promoting hydel projects in the Central Sector and for investment in transmission lines for evacuation of power from mega hydel projects which will benefit more than one State.

3.3 Basin-wise Development of Hydro Potential

The assessment of hydro potential in 845 identified conventional hydro projects and 56 pumped storage projects is on the basis of desk studies using toposheets and discharge data. Further, detailed studies to firm up the parameters of the projects as identified by CEA would be taken up on the basis of development of hydro potential in a basin as a whole for maximising benefits and prioritising execution of projects. These studies will be done in close co-ordination with CWC and in harmony with Planning Commission and development for other uses of water like irrigation, drinking water etc. While CEA would carry out these studies, CPSUs/other Central Government Organisations and State authorities would do the investigations and prepare the detailed project reports, by adopting an integrated approach towards planning and development of the various projects, evacuation arrangement and environmental impact assessment. This would enable an optimal harnessing of hydro potential in each river basin.

3.4 Advance Action for Capacity addition in the 10th Plan and beyond

Government will take immediate steps to tie up funding, execution agencies and convey investment decision for schemes already accorded techno economic clearance of CEA. as far as Central Sector is concerned, NHPC would take up Chamera Stage II (300 MW), Parbati Stage-II (800 MW), HP and Kol Dam (800 MW) in HP; Teesta Stage V (510 MW) in Sikkim, Loktak Downstream (90 MW) in Manipur and NEEPCO will take up Tuivai (210 MW) in Mizoram, Lower Kopili (150 MW) in Assam, Kameng (600 MW) and Rangadi Stage II (160 MW) in Arunachal Pradesh (after the consent of the State Govt. has been obtained). In addition THDC would take action to start activities on Tehri Stage II (1000 MW) and Koteshwar (400 MW) in UP. Similarly NJPC would also take up Rampur Project (535 MW) in HP. These projects would require budgetary support of about Rs. 2000 crores in the 9th Plan.

3.5 Survey & Investigations

As a long term strategy efforts will be made to ensure that DPRs which are under various stages of processing for accord to TEC by CEA are finalised and cleared so that a start could be made on these projects in the next one or two years. Survey and investigation of the potential hydro sites on an advanced scientific basis would be essential requirement for the future. The progress on this front has been dismal given the funds constraint and outdated technology. The funding agencies like World Bank and ADB have shown their interest towards funding the survey and investigation activities for hydroelectric projects. Concerted efforts would be made towards availing the funds quickly. This would not only help in preparation of the bankable DPRs for large hydroelectric projects but would also bring in advanced technology by involving reputed international consultants. The central organisations like CWC, Brahmaputra Board, NEEPCO and NHPC, besides SEBs would be provided with funding support from the proposed power development fund for the purpose of carrying out survey and investigations and preparation of bankable DPRs.

Since the private sector has so far been hesitant and cautious to invest in hydro projects, it is proposed that new projects will initially be taken up by CPSUs/SEBs for investigations, updatation of DPRs, obtaining the necessary clearances and pre-construction activities. After these stages, the projects could be offered to the private sector for execution either on 'stand alone' basis or for joint venture participation with the CPSU/SEB. The expenditure incurred by CPSUs/SEBs on these activities would be adjusted in the project cost to be recovered from the executing agency to be decided at a later stage. The Government expects that more private investment would be possible with this approach. In case for a particular project no such private investment is forthcoming, it will be executed entirely by the concerned CPSU/SEB which initiated its development.

3.6 Inter-State Projects

A substantial hydel power potential has remained locked up and many mega hydel projects could not be taken up for implementation, even though these projects are well recognised as attractive and viable, because of unresolved Inter-State issues. Govt. of India recognises the need for evolving an approach to ensure that the available hydro-electric potential is fully utilised without prejudice to the rights of the riparian States as determined by the awards of the Tribunals/Agreements arrived at among the party States for a given river basin with regard to water sharing. The selection and design of project would be based on integrated basin wise studies, so as to arrive at an optimal decision and care will be taken that such projects do not in any way prejudice the claims of basin states or affect benefits from the existing projects. A consensus would be evolved amongst the basin states regarding the location of such project, basic parameters involved and mechanism through which each project would be constructed and operated. As far as possible, there would be preference to take up simple run-of-the-river schemes that do not involve any major storage or consumptive uses.

3.7 Renovation, Modernisation & Upgrading

Renovation, Modernisation & Upgrading of old hydro power plants is being accorded priority as it is a faster and cheaper way of capacity addition than installing new capacity. As per recommendations of National Committee set up in 1987 and based on the subsequent reviews, 55 hydro schemes with an aggregate capacity of 9653 MW were identified for RM&U. Out of these, 20 hydro schemes have been completed providing a benefit of 971.5 MW and work on 27 schemes is in progress. In order to provide a greater thrust for RM&U, Government would set up a Standing Committee, to identify the new schemes and for tying up technology, funding and executing agencies.

3.8 Promoting Small and Mini Hydel Projects

The Ministry of Non-Conventional Energy Sources (MNES) deals with all matters related to Small Hydel projects (upto 3 MW Capacity). These projects are being provided with the following incentives.

- (i) Incentives for detailed survey & investigation and preparation of DPR.
- (ii) Incentives during the execution of the project in the form of capital/interest subsidy.
- (iii) Special incentives for execution of small hydro projects in the North Eastern Region by the Government departments/SEBs/State agencies.
- (iv) Financial support for renovation, modernisation and upgrading of old small hydro power stations.

The small hydel projects are site specific and depending on the hydrology, typically the plant load factor varies from 40 to 60%. The Small Hydel Projects upto 25 MW will also be transferred to MNES in order to provide greater thrust for its development. Government of India proposes to provide soft loans to these projects (upto 25 MW) through IREDA/PFC/REC and other financial institutions and Ministry of Non-Conventional Energy Sources would announce a suitable package of financial incentives for the accelerated development of Small Hydel Projects upto 25 MW station capacity. The State Government and Central and State Hydro Corporations like NHPC/NEEPCO etc. would be encouraged to take up a cluster of small/mini hydel schemes on Build, Operate and Transfer basis, and other suitable arrangements.

3.9 Simplified Procedures for Transfer of Clearances

As stated in the foregoing, the CPSUs and the private sector would need to play a greater role in hydro development. The immediate requirement would be to transfer the clearances already accorded to non-starting hydro projects in the State Sector in favour of CPSU/IPP/Joint Venture of IPP and CPSU. Government would evolve a simple procedure so that the transfer of CEA's techno economic clearance would be facile as only updation of project estimate would be examined by CEA. In the case of Environment and Forest clearances these could be transferred to CPSU/IPP etc. within a prescribed time limit on acceptance of conditionalities stipulated in the MOEF clearance accorded for execution in the State sector by the above executing agencies. Another inhibiting factor discouraging IPPs is the need for notification of the scheme as per Section 29 of ES Act in newspaper and Gazette afresh even if this was done earlier for execution by SEBs. Government intends to do away with this requirement. The simplified procedure as proposed would be an encouraging factor of IPP to evince greater interest in hydro development. Government would initiate action right away towards this end.

3.10 Rationalisation of Hydro Tariff

The tariff formulation and norms for hydro projects as per existing Government Notification are viewed by CPSUs and IPPs as unfavourable compared to those for thermal projects and the IPPs tend to prefer thermal projects for investment. There is a need to reformulate the principles on the basis of which tariff is determined for hydel generation. The objective is to fix a rate which will be reasonable to the consumer, to ensure adequate internal resources to repay the loan and also to provide a reasonable rate of return on investment. Recognising the difficulties in execution of hydro projects, the Government has decided to rationalise the existing hydro tariff norms, improve the incentives for better operation and evolve a solution to the contentious issue of computing the completion cost in the face of geological uncertainties and surprises and natural incidents of rock slide etc.

In January 1995, the Government issued a notification providing for a two part tariff for hydel generation stations. The first part of the tariff, denominated as capacity charges covers (a) interest on loan capital; and (b) depreciation reckoned at an annual amount not exceeding 1/12 of the loan amount and limited to the actual loan liability of the year as per approved financial package. The second part of the tariff denominated as energy charges covers (a) return on equity calculated at 16% (b) O&M charges; (c) tax on income; and (d) any other variable charge.

Hydro projects provide valuable peak power and have inherent capability for instantaneous starting and stoppage based on variation of load. The peaking power stations generally operate at a very low load level. Recognising the value of peak power to the system and resultant improvement in operation of thermal stations, it is proposed to allow a premium on the sale rate for hydro generation during peak period. The formulation of peak tariff and the premium to be allowed would be decided by the Central Electricity Regulatory Commission and the State Electricity Regulatory Commissions. Under the present notification, the rate for incentive for secondary energy has to be fixed at a rate mutually agreed between the State Electricity Board and the generating company. However, the maximum payment on this account is restricted to an amount not exceeding 10% return on equity. In order to provide an additional incentive for attracting investment in hydel projects, it is proposed to allow the sale rate for secondary energy at the same rate which is applicable for a primary energy.

Recognising the problems in operation of hydro power stations in the initial years especially in project with silt laden water, the normative availability factor is proposed to be reduced from 90% to 85%.

3.11 Estimates on Completion Cost (Geological Risks)

During the implementation of hydro power projects specially underground power stations, there is a likelihood of coming across geological surprises which are not anticipated at the time of preparation of Detailed Project Report. This results in increase in capital cost. The developer would need to be compensated for this kind of eventualities.

In the existing tariff notification for hydro projects there is no provision for increase in project cost arising due to geological risks. A realistic estimate of completion cost has to take into account the geological and hydrological risks, cost escalation and natural occurrences of land slides, rock falls etc. In such cases, the developer will be allowed to submit his proposal for the enhanced cost to the Government. Expert committee would be constituted at the State and Central level who would evaluate the recommend the cost increases for acceptance by the Government. The expert committee at the State Government level would recommend the cost increase proposal upto certain percentage and beyond that the cost increase would be recommended by the expert committee at the Central Government level.

3.12 Promoting Hydel Projects with Joint Ventures

With a view to bring in additional private investment in the hydel sector there would be a greater emphasis to take up schemes through the joint ventures between the PSUs/SEBs and the domestic and foreign private enterprises. The joint venture company will be an independent legal entity to be registered under the Companies Act and would act as an independent developer. The joint venture agreement between the two partners will bring clearly the extent of participation by each partner and sharing of risks relating to implementation and operation of the project. It will also provide for arrangement in such cases where the joint venture partner would not be associated with the operation and maintenance of the project. While the selection of a joint venture partner would be in accordance with the policy of the Government, there would be an option for the PSU to either select the joint venture partner together with their financial and equipment package or to select a joint venture partner wherein the EPC contract is decided by both the partners after they have formed the joint venture company. The associated transmission lien connected with the scheme will be constructed by the Power grid Corporation of India. The power from joint venture hydel projects will be purchased by the Power Trading Corporation (PTC) proposed to be formed with equity participation from Government/CPSUs/Financial Institution. The security for payment of power purchased from the joint venture projects would be through a LC to be provided by the SEBs and recourse to the State's share of Central Plan Allocation and other revenue. This security package would enable to raise finances for these projects. as far as the new schemes to be developed under the joint venture route are concerned, the power sharing formula as applicable to the Central Sector Projects shall not apply and joint venture company would be totally guided by the Commercial interest. The State Government (home State/States) will be compensated by way of 12% free power as per the present policy applicable for Central Sector hydel projects.

3.13 Selection of Developer and Techno Economic Clearance of CEA

As per Government notification of September, 1996, all the schemes estimated to involve a capital expenditure above Rs. 100 crores are to be submitted to CEA for techno economic clearance and in respect of schemes prepared by a generating company and selected through a process of competitive bidding by the competent Government or governments, the exemption from CEA's techno-economic clearance is applicable if the capital cost is Rs. 1000 crores or less.

Considering the capital intensive nature of hydel projects especially those of medium size being executed in the State Sector, it is proposed to increase the limit for exemption of CEA clearance from the present Rs. 100 crores to Rs. 250 crores if the projects are taken in the MOU route. In case of projects through competitive bidding the existing limit of Rs. 1000 crores for CEA techno economic clearance will

continue. However, irrespective of the capital cost or capacity, all hydel projects having inter-State aspect will require a mandatory clearance from the CEA. Keeping in view the need for transparency and cost assessment by an accepted mechanism as well as the uncertainties that are inevitable in the development and execution of hydel projects, the Government proposes to allow the selection of developer through MOU route for the hydel projects upto 100 MW instead of the existing limit of Rs. 100 crores. However, these projects would require CEA techno economic clearance if their capital cost exceeds Rs. 250 crores. This would enable more developers to evince interest in medium size hydro projects due to ease of execution and resource raising and due to exemption in obtaining clearances.

3.14 Govt. Support for Land Acquisition, Resettlement & Rehabilitation, Catchment Area Development

The acquisition of requisite Government, forest and private land involves cumbersome procedure and difficult negotiations with land owners to part with the land. Demands for employment in lieu of the land cost, land for land at places of land owners choice etc. has resulted in contractual problems for several projects. There is, therefore, a need that project authorities are insulated from the problems arising out of land acquisition and R&R. It will be the responsibility of the State Govt. to acquire the land (Government/Private/Forest) for the project and also negotiate at its own terms with land owners as per the policy adopted by respective State Governments. Similarly, all the issues of resettlement and rehabilitation associated with projects have to be addressed by the State Govt. The State Governments may consider to form Authorities to address the problems of land acquisition and R&R for all infrastructure projects. In case of mega projects the project specific Authorities may be created not only for land acquisition and RR but for comprehensive development of the area including catchment area. The project developer may not be involved in execution and implementation of works by these Authorities, but will be required to contribute for funding their plans. All such costs incurred by the developer shall be considered as cost to the project and allowed to be passed through tariff.