

**CENTRAL ELECTRICITY REGULATORY COMMISSION (CERC)**  
3rd & 4th Floor, Chanderlok Building, 36, Janpath, New Delhi – 110 001  
Tel No.:011-23753915 / Fax No.:011-23753920

Dated: 19<sup>th</sup> April, 2010

**PUBLIC NOTICE**

**Subject: Guidelines for vetting of Capital Cost of Hydro Electric Projects.**

After consideration of requests from stakeholders, it has been decided to further extend the date for receiving the comments/suggestions/objections. The comments/suggestions/objections on the draft guidelines can now be submitted by 30<sup>th</sup> April, 2010.

2. The comments / suggestions / objections received after the stipulated date in the Commission's office may not be considered while finalizing the guidelines.

**Sd/-**  
**(T.Rout)**  
**Jt. Chief (Legal)**

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

3rd & 4th Floor, Chanderlok Building, 36, Janpath, New Delhi-110001

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File No.

Date:- 06-04-2010

**Sub:- Guidelines for vetting of Capital Cost of Hydro Electric Projects.**

In pursuance of Section 79(1) (a) and (b) read with Section 61 and 62 of the Electricity Act, 2003 the tariff for hydro electric projects is regulated by the CERC. Under Regulation 7(2) of the Tariff Regulation for the period 2009 – 2014, the Commission may issue guidelines for vetting of capital cost of hydro electric projects by an independent agency or expert and in that event the capital cost as vetted by such agency or expert may be considered by the Commission while determining tariff of hydro generating station.

2. CERC has prepared a draft guidelines for vetting of capital cost of hydro electric projects by designated /independent agency/institution/expert. The draft is uploaded in CERC's website [www.cercind.gov.in](http://www.cercind.gov.in). All stakeholders who may like to offer their comments or suggestions on the draft guidelines are requested to send their comments to the undersigned within a period of 15 days of issue of this letter i.e. upto 20-04-2010.

Sd /i  
(Alok Kumar)  
Secretary

All stakeholders as per standard mailing list.

**CENTRAL ELECTRICITY REGULATORY  
COMMISSION**

**GUIDELINES FOR VETTING OF CAPITAL COST  
OF  
*HYDRO-ELECTRIC PROJECTS***

**BY**

**THE DESIGNATED INDEPENDENT  
AGENCIES/INSTITUTIONS/EXPERTS**

**NEW DELHI  
JANUARY, 2010**

## **1.0 Introduction**

1.1 CERC regulates tariff for hydro electric projects in terms of section 79(1)(a) and (b) read with section 61 and 62 of the Electricity Act, 2003. For ascertaining reasonableness of the capital cost of hydro electric projects, CERC carries out prudence check.

1.2. Govt. of India has formulated a new 'Hydro Power Policy-2008', leading to certain amendments to the 'Tariff Policy' vide notification dated 31st March, 2008. Under the provisions of amended Tariff Policy, in case the site of a hydro generating station is awarded to a developer (not being a State controlled or owned company) by a State Government by transparent process of bidding, such a developer has the option to sell 40% of its power by merchant sale and remaining 60% through long terms PPAs for which tariff will be determined by the Appropriate Commission.

1.3 Pertinently, Section 8 of the Act envisages concurrence of the scheme by CEA from technical angle and optimum utilisation of water resources. So far as capital cost of the project/scheme is concerned, scrutiny of its reasonableness for tariff determination remains the responsibility of the Appropriate Commission. As per the tariff policy as amended on 31st March, 2008, the Appropriate Commission has also to approve the time period of commissioning of hydro projects before commencement of the construction.

1.4 Thus, the Central Commission has the following two specific responsibilities in the context:

1.4.1 To ascertain the reasonableness of the capital cost of a hydro electric project – private or public.

1.4.2 To scrutinize and approve the commissioning schedule of the private hydro-electric projects of a developer not being a state owned/controlled as per the tariff policy as amended on 31st March, 2008.

1.5 With due regard to the above, CERC in its tariff regulations for the period 2009-14 has, under regulation 7 (2), provided as follows:

*"Commission may issue guidelines for vetting of capital cost of hydro-electric projects by an independent agency or expert and in that event the capital cost as vetted by such agency or expert may be considered by the Commission while determining the tariff of hydro generating station. Provided also that the Commission may issue guidelines for scrutiny and approval of commissioning schedule of the hydro-electric projects of a developer, not being a State controlled or owned company as envisaged in the amended tariff policy dated 31st March, 2008." The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff.*

1.6 In order to meet one of the requirements of the regulation as quoted in para 1.5 above, CERC is in the process of empanelment



of independent agencies/institutions to whom a project developer – public or private, can approach for vetting of capital cost. The capital cost as vetted by such agency or expert shall be considered by the Commission while determining the tariff of hydro generating station;

## **2. Definitions:**

2.1 Designated Independent Agencies/ Experts: The agencies and the experts notified by the Central Electricity Regulatory Commission from time to time for the purpose of vetting of Capital cost of Hydro-Electric projects of the Central Generating Companies or of the Generating Companies having a composite scheme of sale of power in more than one State

2.2 In these guidelines unless the context otherwise requires the words and expressions used and not defined in these guidelines but defined in the Electricity Act, 2003 or the CERC (Terms and Conditions of Tariff) 2009 shall have the meaning assigned to them in the said Act or the said CERC Regulations.

## **3. Objective**

3.1 These guidelines have been framed to describe the respective roles, responsibilities of the Designated Independent Agencies/ Experts, Central Electricity Regulatory Commission, and the Central Generating Companies or the Generating Companies having a composite scheme of sale of power in more than one State, developing or having developed a hydro-electric projects for the

purpose of vetting of Capital cost of such projects by the Designated Independent Agencies/ Experts including the procedures to be followed by them, information to be exchanged, Scope and factors to be considered, stages of interventions of the Designated Independent Agencies/ Experts, etc. .

#### **4. Applicability of the Guidelines**

These guidelines would apply to the Designated Independent Agencies/ Experts and Central Generating Companies or the Generating Companies having a composite scheme of sale of power in more than one State and who are developing or have executed a hydro-electric projects for vetting of project Capital cost of such hydro-Electric projects. These guidelines shall come into effect with effect from 1.4.2010.

#### **5. Selection of the designated Agency/Experts by the Generating Company**

5.1. A generating company may choose a designated agency or an expert from the list of designated agencies/Experts notified by the Central Commission from time to time for vetting the capital cost of a hydro-electric project being developed or having developed by it.

5.2. The generating company should be seeking offers from the two or more designated agencies/Experts and the agency/experts quoting lowest should be selected.

5.3. The selected designated agency/expert should not have any form of association or any financial or commercial dealings in the last two years with the generating company.

5.4. The generating company may also select a designated agency/Expert, in case, the number of bidders is less than two with prior intimation to the CERC.

**6. Ceiling on consultancy charges for vetting the Capital cost of project by the Designated Independent Agencies/ Experts**

6.1. The consultancy charges to be paid by the generating company in getting the capital cost vetted by the Independent Agency/Experts shall not exceed a ceiling of 0.02% of the Capital cost of the hydro-electric project excluding IDC and financing charges or Rs. 5 Crore whichever is less. However, in case of delay due to geological surprises encountered an additional amount may be payable on prorata basis.

**7. Role, responsibilities and the Procedure to be followed by the Designated Independent Agencies /Experts**

7.1. The Independent agency /expert shall not have any conflict of interest prior to the taking up the job of vetting of the capital cost of project, during the construction of the project and within a period of two years of the completion of the project.



7.2. The Independent agency /expert shall appraise the capital cost of the project in due consideration of the following:

- (a) Features of the Hydro Electric Scheme including site specific features,
- (b) Location of the project site,
- (c) Geology of the project site,
- (d) Defence aspects,
- (e) Hydrology,
- (f) Optimum development of the river basin,
- (g) power potential studies,
- (h) Optimum location of dam and other civil works detailing various alternatives considered,
- (i) Type of technologies available and the Construction machinery to be deployed
- (j) Studies for optimization of dam height, detailed design calculations for checking dam design & safety,
- (k) Civil design aspects, inter-state and international aspects,
- (l) Environmental & Forest aspects,
- (m) Rehabilitation & Resettlement aspects in line with govt directives from time to time
- (n) Cost estimates for civil works and electro-mechanical works
- (o) Source of funding and fund flow
- (p) Schedule of Commissioning
- (q) Geological surprises
- (r) Time and cost over-run, if any

7.3. The cost overrun attributed to the generating company and not attributed to the generating company shall be indicated separately in due consideration of schedule of completion of various milestones as per PERT Chart along with reasons for time and cost overrun..

7.4. The Independent agency /expert shall be associated with the project from the start of the project as far as possible and should be appraising and recommending the capital cost to the generating company with a copy to the CERC in the following stages:

- (a) Within 3 months of making available the DPR by the Generating Company
- (b) In case of any change in the configuration, capacity or scope of works after submission of DPR by the generating company within two months of receiving such intimation and details in this regard.
- (c) In case of any hydrological failure/surprises encountered and in due consideration of changes in the designs etc if any within two months of such intimation regarding hydrological failures/surprises encountered and consequential changes in the design and delay in schedule of completion.
- (d) Within two months of the COD

7.5 Monitoring of the project execution: The Designated Independent Agencies /Experts shall monitor the progress of the project. Any delay of any major milestones from the schedule shall be promptly taken note of and informed to the CERC.

7.6 Any commercial or sensitive information gathered by the Designated Independent Agencies /Experts from the generating company for the purpose of vetting of project capital cost shall not be made public or used for jeopardising the interest of the generating company in any manner by them.

7.7 The Designated Independent Agencies /Experts shall appear before the Commission during the hearing of the tariff petition of the Hydro electric generating station and provide necessary assistance to the Central Commission with regard to the reasonableness of the project cost.

## **8. Role, Responsibilities and Procedure to be followed by the Generating Company**

8.1. The generating company after completing essential site survey and investigations shall prepare a detailed project report (DPR) of the Hydro Electric Scheme and submit a Hard copy and the soft copy of the same to the designated agency/expert and to the CERC.

8.2. The DPR should be prepared with due consideration to the latest "Guidelines for Formulation of Detailed Project Reports for Hydro Electric Schemes, their Acceptance and Examination for Concurrence" published by the Authority and "Guidelines for preparation of Detailed Project Report of Irrigation & Multipurpose Schemes" published by the Central Water Commission and latest practices and technologies.



8.3. The DPR shall include a checklist incorporating tie-up of essential inputs and statutory clearances, salient features of the Hydro Electric Scheme, executive summary, geological aspects, defence aspects, hydrology, justification for the best ultimate development of the river basin, power potential studies, optimization of location of dam and other civil works detailing various alternatives considered, studies for optimization of dam height, detailed design calculations for checking dam design & safety, civil design aspects, inter-state and international aspects, environmental & forest aspects, rehabilitation & resettlement aspects, cost estimates for civil works and electro-mechanical works and source of funding, IDC , fund flow and tariff calculations as per the regulations of the appropriate Commission.

8.4. The electrical & mechanical cost estimates shall be with due consideration to the latest edition of "Guidelines for Formulation of Detailed Project Reports for Hydro Electric Schemes, their Acceptance and Examination for Concurrence" published by the Authority, as modified from time to time and civil cost estimates shall be in due consideration of the latest edition of "Guidelines for preparation of Estimates for River Valley Schemes" published by the Central Water Commission, as modified from time to time. The deviations from the guidelines shall be justified/ explained in clear terms along with details.

8.5. The DPR shall also include the following:



- (i) Authorization and terms of the concerned State Government(s) for the development of the Hydro Electric Scheme.
- (ii) Confirmation from State Government(s) in respect of water availability and land availability.
- (iii) Information on environmental and forest aspects and status of clearance from the Ministry of Environment & Forest.
- (iv) Information on tribal population affected and status of clearance from the Ministry of Social Justice and Empowerment/Tribal Affairs, if tribal population is affected.
- (v) Clearance from the Ministry of Defence if required.
- (vi) Concurrence of CEA, if required.
- (vii) Cost of R&R plan as per the Govt guidelines.

8.6. The generating Co. shall clearly give the schedule of Completion of project starting from investment decision, time to be taken in the financial closure of the project, expected zero date and scheduled date of completion supported by PERT Network identifying the critical path and milestones.

8.7. The queries raised by the Designated Independent Agency/Experts, shall be promptly replied to by the generating company within a reasonable time with a copy to the Central Commission.

8.8. Any change in the schedule of completion and estimate of the capital cost of the project after the submission of DPR due to

changes in the cost of various packages of works as a result of competitive bidding process, changes in the design features of the proposed hydroelectric scheme or its configuration and capacity viz. type of development (storage/ ROR), type & height of dam, live storage, design head, installed capacity, number of units, type of turbine, type of power house, transmission voltage etc, having implication on the project capital cost shall be promptly brought to the notice of the Independent Agency/Experts along with details of the revised cost estimates in comparison to previous estimates, supported by justification and suitable explanations.

8.9. The Generating Company shall furnish to the Independent Agency/Experts copies of the tender enquiry and the letter of Awards of different packages and any other relevant information as desired by the Independent Agency/ Experts with a copy to the CERC along with the copy of the request made by the Designated agency vetting the project capital cost.

8.10. The generating company shall file recommendations of the designated agency/expert appraising the capital cost of the hydro-electric project from time to time along with the tariff petition for the determination of tariff on the COD.