

**CENTRAL ELECTRICITY  
AUTHORITY**

**GUIDELINES FOR ACCORD OF  
CONCURRENCE TO HYDRO  
GENERATING SCHEMES  
SUBMITTED TO THE AUTHORITY  
UNDER SECTION 8 OF  
ELECTRICITY ACT, 2003**

**NEW DELHI  
JANUARY, 2007**

# **Guidelines for Accord of Concurrence to Hydro Generating Schemes Submitted to the Authority Under Section 8 of Electricity Act, 2003**

## 1. General

1.1 These guidelines have been framed to describe the procedure to be followed by Central Electricity Authority for accord of concurrence to Hydro Electric Schemes submitted to it under Section 8 of the Electricity Act, 2003.

1.2 In these guidelines unless the context otherwise requires –

- (a) 'Act' means the Electricity Act, 2003.
- (b) 'Authority' means the Central Electricity Authority constituted under sub-section (2) of Section 70 of the Act.
- (c) 'Installed Capacity' means the summation of the capacities of all the generating units to be installed in the Hydro Electric Generating Station.
- (d) 'Hydro Electric Scheme' means a scheme aimed at setting up the complete Hydro Electric Generating Station which will provide facility including penstocks, head and tail works, main and regulating reservoirs, dams and other hydraulic works, building and plant with step up transformer, switchgear, switchyard, cables and other appurtenant equipment including building used for housing the operating staff of the generating station

- 1.3 Other words and expressions used and not defined in these guidelines but defined in the Electricity Act, 2003 shall have the meaning assigned to them in the said Act.

## **2 Applicability of the Guidelines**

These guidelines are applicable to any Generating Company intending to set up a Hydro Electric Generating Station estimated to involve a capital expenditure exceeding such sum as may be fixed by the Central Government from time to time, by Notification<sup>(1)</sup> under Section 8 (1) of the Act.

## **3. Objectives and Scope**

- (i) Hydro Electric Schemes constitute an integral part of the overall development of the water resources of the river basins for multipurpose use and often are a part of a series of single or multipurpose schemes. In the overall river basin context, the impact of the operation of the upstream Hydro Electric Schemes, water availability undergoing changes over the life of the Hydro Electric Scheme on account of progressive development in the

(1) Govt. of India Notification No. 550 (E) dated 18.04.2006.

river basin, constraints imposed by the downstream Hydro Electric Schemes, requirements of drinking water, irrigation diversions downstream, flood moderation, navigation and other related matters are to be considered.

- (ii) Hydro Electric Scheme shall be designed for optimum benefits and shall not adversely affect the operation of the upstream

and downstream Hydro Electric Schemes and shall take into consideration the impact of the future upstream and downstream developments in the river basin as identified by the concerned State and the Authority.

(iii) To meet the objectives at 3(i) and 3(ii), the following should be ensured:

- (a) the Hydro Electric Scheme meets the requirement of the best ultimate development of the river basin as provided in the National Electricity Policy and National Electricity Plan.
- (b) the Hydro Electric Scheme is consistent with water requirement for irrigation, navigation, flood control, drinking water or other public purposes.
- (c) the Hydro Electric Scheme takes into account the progressive development of consumptive use of water and new water resources development schemes in the river basin due to which the water availability may undergo change over the period,
- (d) the Hydro Electric Scheme meets the requirement of optimum location of dams and other river works.
- (e) the Hydro Electric Scheme meets the norms regarding dam design and dam safety.
- (f) the Hydro Electric Scheme is either included in National Electricity Plan drawn by the Authority under section 3(4)

of the Act or results in generation of power at reasonable tariff.

#### **4. Inputs and Procedures for concurrence of Hydro Electric Schemes**

- (a) The generating company after completing essential site survey and investigations shall prepare detailed project report (DPR) of the Hydro Electric Scheme in accordance with the latest editions of “*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 submit the same to the Authority.
  
- (b) 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, fund flow and tariff calculations as per the regulations of the appropriate Commission.

- (c) The electrical & mechanical cost estimates shall be based on 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 and as modified from time to time and civil cost estimates shall be based on the latest edition of “*Guidelines for preparation of Estimates for River Valley Schemes*” published by the Central Water Commission and as modified from time to time.
  
- (d) The DPR shall also include the following:
  - (i) Authorization 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.
  
- (e) Twenty one numbers of hard copies of the DPR along with one soft copy on compact disk shall be submitted to the Authority.

- (f) The generating company shall also submit the DPR to the appropriate Regulatory Commission and the appropriate Transmission Utility for information.
- (g) The Authority shall send a copy of DPR to the State Govt. seeking its views on development of the scheme. Also, the State Government representative shall be invited to participate in the meetings held for consultations and resolving various issues.
- (h) In case of DPR not being complete in all respects, the Authority shall return the same to the generating company within the time period stipulated in the “Guidelines for Formulation of Project Reports for Power Projects” for its revision or modification and resubmission thereafter.
- (i) DPR complete in all respects will be taken up for detailed examination by the Authority. The queries raised by the Authority, if any, shall be promptly replied by the generating company within the stipulated time schedule as prescribed by the Authority failing which the DPR shall stand returned to the generating company.
- (j) In case the Hydro Electric Scheme is found technically and economically viable with necessary inputs and clearances having been tied-up as stipulated in the “*Guidelines for Formulation of Detailed Project Reports for Hydro Electric Schemes, their Acceptance and Examination for Concurrence*”, the Authority may accord concurrence for implementation of the Hydro Electric Scheme, as far as

practicable, within a period of 90 (ninety) days from the date of submission of the DPR complete in all respects.

- (k) For Hydro Electric Scheme selected through tariff based competitive bidding, the Authority shall examine the technical viability consistent with the provisions of the Act.
- (l) On tying up of all essential inputs and statutory clearances, the generating company shall update the DPR incorporating all the modifications as agreed during the deliberations and in accordance with the conditions of concurrence and submit the same on compact disk in the software format prescribed by the Authority along with 5 (five) nos. of hard copies for record of the Authority.
- (m) The Generating Company shall submit the updated DPR to the concerned State Government under intimation to the Authority.

## **5. Consultation with Other Agencies**

- (i) The Authority may take the assistance of any institution like the Central Water Commission, the Ministry of Water Resources, the Geological Survey of India etc. for examination of the DPR as it may consider necessary.
- (ii) The Authority shall consult the State Government or Central Government or such Government agencies as it may deem appropriate as per Section 8(2) of the Act.



## **6. Availability of the Guidelines**

Central Electricity Authority “*Guidelines for Formulation of Detailed Project Reports for Hydro Electric Schemes, their Acceptance and Examination for Concurrence*” shall be available on the Authority’s web site ([www.cea.nic.in](http://www.cea.nic.in)).

## **7. Validity of Concurrence**

In case the time gap between the concurrence to the scheme by the Authority and the actual start of the work of the project by the generating company is more than three years, the generating company may apply for revalidation of the concurrence giving justification after getting due authorization of the appropriate Government. The Authority will consider the request for extension of the validity based on the merit.

## **8. Transfer of Concurrence**

Concurrence to the Hydro Electric Scheme given by the Authority in the name of a generating company can be transferred to another generating company in accordance with the procedure laid down by the Authority. The new generating company shall submit the request for transfer of concurrence for consideration of the Authority.

## **9. Subsequent Changes in the Project Parameters**

In case, there are major changes in the parameters of the project 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, from those concurred by the Authority necessitated on account of site conditions, the same need to be brought to the notice of the Authority with appropriate justification for its approval prior to implementation of such changes in the project.