LGAI. Certification Technological Center

Validation Project:
***Construction and operation of the Hydraulic Power Plant Chicoasén II* (7684)**
Date for Response to REQ-CER Completeness Check Incomplete: 17/12/2012

In order to complete the registration of the CDM project activity "Construction and operation of the Hydraulic Power Plant Chicoasén II (7684)".

a) The appropriateness of the choice of the option (option b) for investment analysis by clarifying whether the proposed baseline scenario leaves the project participant no other choice than to make an investment to supply the same (or substitute) products or services. Please refer to para. 19 of the *Guidelines on the assessment of investment analysis* (EB 62 Annex 5).
As it is indicated in PDD, PP has used the levelized cost of electricity production in $/kWh, as it is stated on COPAR (Cost and Parameters for the Formulation of Investment Projects in the Electricity Sector). This indicator is used by the Mexican Government in order to compare two or more projects giving the same product.
Once the Levelized Energy Cost is calculated, it can be seen than the project is unattractive compared to others, such as the natural gas combined cycle power plant which delivers the same output.

b) The accuracy of the calculation of the levelized cost of electricity, in particular, how the following potential differences were taken into account: i) the difference in the services provided: the cogeneration may provide heat and power, whereas hydro power plant only provides power; and ii) different applicable policies such as subsidies, tax exemptions or feed-in-tariff for different technologies.
As stated before, the Levelized Energy Cost is used by the Mexican Government in order to compare two or more projects giving the same output.
As it is stated in COPAR section C.2 Methodology for the calculation of the levelized cost (page 183), the levelized energy cost is composed of three parts: investment cost, fuel and operation and maintenance. Determining the levelized cost per MWh of investment concept involves technical and economic aspects that define a technology, such as: costs investment, the investment program, the plant factor means, the power per unit and total economic life and the discount rate.
Then comparing two different kinds of projects using the levelized energy cost, means that it has been taken into account the total amount of energy production, such as heat and power produced in the natural gas combined cycle power plant.
Also this indicator takes into account different applicable policies such as subsidies, tax exemptions or feed-in-tariff.

Attached you will find the COPAR - Cost and Parameters for the Formulation of Investment Projects in the Electricity Sector in Spanish version. Following you will

find a translation of the Section C.2 Methodology for the calculation of the levelized cost (page 183):

"This concept summarizes economic information available about a Project. Its value expresses the average cost of the good or service is produced and particularly useful for comparing two or more projects which can obtain optional the same product.
This paper applies the concept of levelized cost of energy MWh generated by each of the technologies discussed for comparative purposes.
The cost of a MWh generated is composed of three parts: investment cost, fuel and operation and maintenance. This section describes the technical to obtain the levelized cost of investment concept; however, the same technique can be used for levelized costs for other items. For example, in geothermal electricity the case of replacement costs involve wells disbursements over the economic life of the plant, making them the cost per MWh incorporated as cost level. In the case of plants coated fuel nuclear power, in terms of consumption and payment, similar characteristics is also therefore incorporated as cost level.
Determining the levelized cost per MWh of investment concept involves technical and economic aspects that define a technology, such as: costs investment, the investment program, the plant factor means, the power per unit and total economic life and the discount rate.
The levelized cost per MWh of investment concept is defined as the value when multiplied by the present value of the generation of the plant, considering life useful, equals the present value of costs incurred in the construction of the plant in issue[1]."

[1] Using this definition can be considered a complete plant, a unit or MW