Validation Table for Assessment of Financial Parameters

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
Net electricity supplied to Grid	127,900	MWh	Project Feasibility Study Report/1-19 /	/FSS/	☒	☒	The value is calculated based on the statistic information of average water resource availability and project technical/ equipment information. As indicated in the FSS, the annual operation time of project is estimated to be 5230 hours and the annual electricity supplied is estimated as 127,900 MWh. The water availability is based on long term measurements (30 years) of a hydrometrical station on the Baishuijiang River close to the project site. The plant load factor is 60 % which is in compliance with the values from other hydro stations at the river. The FSR was finalized in Oct. 2004, the decision for CDM activity was made in April 2005 and the project construction is started in Nov. 2005. Based on the above validation results the validation team came to the conclusion that the input value for net electricity supply is appropriate and stable even after the one year period between FSS and project start date.
Static total investment	235.196	Million RMB	Project Feasibility Study Report/12-2/	/FSS/	☒	☒	The FSS neither considers additional costs like construction of an electricity transmission line to the substation nor the construction of a countryside road and two simple bridges for the local population. Although this can be considered as expenditure for the project owner it was not considered to ensure conservativeness. The FSS is prepared by the third party *Institute of Reconnaissance and Design of Sinohydro Engineering Bureau No.7.* The Sinohydro Engineering Bureau No.7 is

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
							an ISO9002 quality control system certified organization who was founded in 1965 and has a skilful expertise in hydropower project design and construction. The Institute is qualified to compile design reports for hydropower projects. It has obtained second grade qualification in water resources industry (reservoir pivot, watercourse renovation, city flood control) and electric power industry (hydropower) issued by the Ministry of Construction. This is an indicator that the investment costs are not overestimated. Also considering the increase of material/equipment price in China, the value is valid and conservative.
Electricity tariff (VAT Incl.)	0.22	RMB/ kWh	Electricity tariff document issued by local price bureau	/PPA/	☒	☒	The tariff is strictly regulated by relevant authorities in China, as a rule the different provincial Price Stabilization Offices guide the grid tariff of respective provinces. On the Feasibility Study and Investment Decision stage of the proposed project, respectively two documents can be obtained with regard to grid tariff of hydropower generation from the relevant authorities in Gansu Province. Following the two documents are described/ explained: One is the *Notice on Increase Price of Grid Tariff of Small Hydropower Enterprise* issued by Price Bureau in Gansu Province on 8 Nov. 2004, Decree No.: Gan Price Commerce [2004]352. [1] This is a prevalent price guideline document. According to this, the Grid Tariff of Small Hydropower Enterprise (defined as "the installed capacity for single plant less than 50 MW") is increased

[1] Notice on Increase Price of Grid Tariff of Small Hydropower Enterprise, Price Bureau in Gansu Province, Decree No.: Gan Price Commerce [2004]352.

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
							from current 0.16 RMB Yuan/kWh to 0.18 RMB Yuan/kWh. This is suitable to the complete electricity generated by a project activity and supplied to the grid. The price (0.18 RMB Yuan/kWh) is including VAT and is valid since 1st Jan. 2005. The other document is the *Notice on Price of Grid Tariff to a Portion of Small Hydropower Enterprise in Gansu Province in 2005* issued by Price Bureau in Gansu Province on 26th Dec. 2005, Decree No.: Gan Price Commerce [2005]3122. This is a temporary and partial price guideline document. The price can only be applied to *Partial Small Hydropower Enterprises in Gansu Province* and is only suitable for hydropower generation in 2005. According to this, for *Partial Small Hydropower Enterprises* who settle accounts directly with provincial Grid in Gansu Province, the Grid Tariff is regulated as 0.22 RMB Yuan/kWh (including VAT) in 2005. Even if this price is only applicable for electricity generation in the year 2005, it is applied to the overall project lifetime. Thus the validation team came to the conclusion that the assumed price ensures conservativeness.

[2] Notice on Price of Grid Tariff to a Portion of Small Hydropower Enterprise in Gansu Province in 2005, Price Bureau in Gansu Province, Decree No.: Gan Price Commerce [2005]312

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
Annual O&M costs	5.054	Millon RMB	Project Feasibility Study Report/12-3/	/FSS/	☒	☒	The O&M consists of payroll (including employee welfare), repair and insurance cost, other expenses, material cost and maintenance fund. The payroll is 1.0152 million RMB/yr calculated as the number of employee (60) multiplied by the average annual salary (16,920 RMB/person). The values are from FSS page 12-3. The assumed annual salary 16,920 RMB/Employer of the proposed project activity is lower than the average annual salary of in-position employee in Gansu Province in 2004 (17,986 RMB/person), (http://www.gansudaily.com.cn/20051016/201/2005A16A00462006.htm). The repair and insurance is calculated as 1.25% of fixed asset investment, the values are from FSS page 12-3 (cost and benefit). Other expenses are 0.672 million RMB/yr, calculated as the installed capacity multiplied by rate of other expenses 24 RMB/kW. The rate 24 RMB/kW is from FSS page 12-3. The material is 140,000 RMB/yr, calculated as capacity multiplied by rate of material cost 5 RMB/kW. The rate 5 RMB/kW is from FSS page 12-3. The maintenance cost is 127,900 RMB/yr, calculated as power supplied multiplied by rate of maintenance cost

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
							0.001 RMB/kWh. The rate 0.001 RMB/kWh is from FSS page 12-3. The above calculations are in compliance with the requirements defined in the *Economical Assessment and Parameters for Construction Project, 3rd edition*, China Planning Press, 2006, issued by Chinese Ministry of Construction and National Development and Reform Committee. In conclusion the O&M costs are in average less than 2 % of total investment. This can be considered as conservative.
City maintenance & construction tax	3	%	Project Feasibility Study Report/12-4/	/FSS/	☒	☒	Surtax for city construction is 5 % of VAT, which is in compliance with national policy.
Surtax for education expenses	5	%	Project Feasibility Study Report/12-4/	/FSS/	☒	☒	Surtax for city construction is 5% of VAT, which is in compliance with national policy.
Income tax	33	%	Project Feasibility Study Report/12-4/	/FSS/	☒	☒	The value is derived from *Corporate Income tax Temporary Terms of People's Republic of China* published on 23/12/1993 which is valid until year 2007. (http://www.lawtime.cn/zhishi/sszsglf/xiangguanfagui/20070426/63781.html). According to the encouraging *policy for development of small hydro power projects* which was published by national government, the income tax was 100 % exempted in the first 2 operational years and 50 % exempted in the subsequent 3 operational years.

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
Depreciation rate	4	%	Project Feasibility Study Report/12-4/	/FSS/	☒	☒	The depreciation rate is calculated as integrated depreciation rate. The value is derived from FSS page 12-4.
Installed capacity	28	MW	Project Feasibility Study Report/1-19/	/FSS/	☒	☒	The capacity is approved by local authority.
Project Lifetime	33	year	Project Feasibility Study Report/12-2/	/FSS/	☒	☒	The value is from FSS. It s also in compliance with *Economical Assessment and Parameters for Construction Project, 3rd edition*. Compared with requirements of EB 39, Annex 35, the applied value is conservative.
Benchmark	8	%	Project Feasibility Study Report/12-2/	/FSS/	☒	☒	There are two compatible and conceivable choices. On the one hand the Jinkouba hydropower project can be considered as an ordinary engineering construction project, the correct reference is the *Economical Assessment and Parameters for Construction Project.*[3] Due to this document a project will be financially accepted when the financial internal rate of return is better than 8.0 %. On the other hand, the Jinkouba hydropower project can also chose the reference *Economic Evaluation Code for Small Hydropower Projects*, which prescribes the benchmark of small hydropower projects (SHP). A project can be considered as small if the installed capacity is between 25 MW and 50 MW in a rural area.

[3] National Development and Reform Commission (NDRC) and Ministry of Construction, "Economical Assessment and Parameters for Construction Project, 3rd edition", China Planning Press, 2006.

Parameter	Value applied	Unit	Source of Information (please indicate document and page)	Reference	DOE ASSESSMENT		
					Correctness of value applied	Appropriateness of information source	Comment
							The benchmark in the above mentioned document is 10.0 %[4]. The project owner accepted the suggestion of the *Institute of Reconnaissance and Design of Sinohydro Engineering Bureau No.7* in the investment analysis of the FSS and selects the 8.0 % as the benchmark of the proposed project. This is conservative as the benchmark 10 % is also applicable.

[4] Ministry of Water Resources，"Economic Evaluation Code for Small Hydropower Projects" (SL 16-95), Decree No. Hydropower［1995］186. This document can be read online at website: http://www.cws.net.cn/guifan/new_show_jj.asp?id=23