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TÜV®

CDM Executive Board

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Date
05.09.2007

Request for Review

"ARAPUtanga Centrais **EL**étricas S. A. - **ARAPUCEL** - Small Hydroelectric Power Plants Project"
(0530)

Dear Sir/Madam,

Please find below the response of the project participants (Araputanga Centrais Elétricas S.A, Arapucel Indiavaí S.A, Arapucel Ombreiras S.A) and the TÜV NORD JI/CDM Certification Program to the requests for review for the above mentioned project no. 0530.

If you have any questions do not hesitate to contact us.

Yours sincerely,

TÜV NORD JI/CDM Certification Program



Rainer Winter

Request for Review (1-3)

Issue raised by EB Members / DNA	<p><i>"The electricity exported to the grid by the Jauru plant in December 2005 was 99% of the monthly maximum generating capacity of the plant based on the installed capacity stated in the PDD. Since there is no information about the transmission loss, it was difficult to estimate the actual generation by the plant in that month. Further clarification is required on how the DOE verified that the actual generation by the plant has not exceeded the installed capacity."</i></p>																																																																																																																																																																					
Response of project participant	<p>PCH Alto Jauru is the first hydropower plant built in the Jauru River. Due to the lack of detailed and long-term hydrological record of the Jauru River, the hydropower potential of PCH Alto Jauru was calculated extrapolating data from nearby rivers of the Paraguay basin (according to a methodology accepted by the Brazilian Electricity Agency - ANEEL).</p> <p>After operation start it became clear that the assumed potential was too conservative (average net capacity factor in the wet season November 2002 to March 2003 was 93.3%, see table 1 below).</p> <table><tr><th colspan="11">PCH ALTO JAURU Generation (MWh) and Capacity Factor (%)</th></tr><tr><th>Years/Months</th><th>2002</th><th>2002</th><th>2003</th><th>2003</th><th>2004</th><th>2004</th><th>2005</th><th>2005</th><th>2006</th><th>2006</th></tr><tr><td>January</td><td>-</td><td></td><td>14,130</td><td>95.0%</td><td>14,372</td><td>88.0%</td><td>11,903</td><td>72.9%</td><td>14,238</td><td>87.1%</td></tr><tr><td>February</td><td>-</td><td></td><td>12,632</td><td>94.0%</td><td>13,289</td><td>86.9%</td><td>11,418</td><td>77.4%</td><td>13,027</td><td>88.3%</td></tr><tr><td>March</td><td>-</td><td></td><td>13,981</td><td>94.0%</td><td>13,310</td><td>81.5%</td><td>13,992</td><td>85.6%</td><td>14,192</td><td>86.9%</td></tr><tr><td>April</td><td>-</td><td></td><td>13,583</td><td>94.3%</td><td>13,460</td><td>85.1%</td><td>13,960</td><td>88.3%</td><td>13,906</td><td>88.0%</td></tr><tr><td>May</td><td>-</td><td></td><td>14,205</td><td>86.9%</td><td>13,618</td><td>83.3%</td><td>14,508</td><td>88.8%</td><td>14,534</td><td>89.0%</td></tr><tr><td>June</td><td>-</td><td></td><td>13,179</td><td>83.4%</td><td>14,161</td><td>89.6%</td><td>13,579</td><td>85.9%</td><td>14,066</td><td>89.0%</td></tr><tr><td>July</td><td>-</td><td></td><td>14,219</td><td>87.0%</td><td>14,343</td><td>87.8%</td><td>14,301</td><td>87.5%</td><td>13,579</td><td>83.1%</td></tr><tr><td>August</td><td>-</td><td></td><td>14,383</td><td>88.0%</td><td>14,541</td><td>89.0%</td><td>14,426</td><td>88.3%</td><td>14,070</td><td>86.1%</td></tr><tr><td>September</td><td>5,067</td><td></td><td>13,907</td><td>88.0%</td><td>13,995</td><td>88.5%</td><td>13,849</td><td>87.6%</td><td>12,223</td><td>77.3%</td></tr><tr><td>October</td><td>13,179</td><td>88.6%</td><td>14,201</td><td>86.9%</td><td>14,194</td><td>86.9%</td><td>14,309</td><td>87.6%</td><td>11,680</td><td>71.5%</td></tr><tr><td>November</td><td>13,467</td><td>93.5%</td><td>13,885</td><td>87.8%</td><td>13,752</td><td>87.0%</td><td>14,221</td><td>89.9%</td><td>13,957</td><td>88.3%</td></tr><tr><td>December</td><td>13,380</td><td>89.9%</td><td>14,216</td><td>87.0%</td><td>14,442</td><td>88.4%</td><td>14,725</td><td>90.1%</td><td>14,355</td><td>87.9%</td></tr><tr><td>TOTAL</td><td>45,092</td><td></td><td>166,522</td><td></td><td>167,476</td><td></td><td>165,188</td><td></td><td>163,827</td><td></td></tr></table> <p>Table 1 – Monthly electricity generation delivered to grid and capacity factor by PCH Alto Jauru</p> <p>For that reason the PPs decided to check with the equipment suppliers and to request from ANEEL the possibility to increase the operational capacity of the existing power plant with the existing equipments.</p> <p>In the first quarter of April 2003 the equipment suppliers confirmed the possibility to increase the operational capacity from 20,020 kW to 21,960 kW simply with the utilization of the existing hydraulic turbine service factor and existing generator capability curve.</p> <p>In 17 April 2003 ANEEL authorized the increase of the operational capacity (see ANEEL Dispatch 223 in annex 1). Since May 2003 PCH Alto Jauru operates with 21,960 kW installed capacity. Consequently the real verified capacity factor in December 2005 is 90.1%.</p> <p>The PPs acknowledge that the information in the documentation of the project activity is inaccurate (a request for deviation is being submitted together with the present clarifications). Nevertheless the PPs would like to call the attention to the fact the inaccuracy does not change anything in the assessment and demonstration of additionality in the PDD (all assumptions made before operation start of the project). In the same direction the deviation has no impact in the estimates of the emission reductions for the proposed activity because assumed future generation of the PCH Alto Jauru was based on actual generated electricity in 2005 and not on the installed capacity.</p>	PCH ALTO JAURU Generation (MWh) and Capacity Factor (%)											Years/Months	2002	2002	2003	2003	2004	2004	2005	2005	2006	2006	January	-		14,130	95.0%	14,372	88.0%	11,903	72.9%	14,238	87.1%	February	-		12,632	94.0%	13,289	86.9%	11,418	77.4%	13,027	88.3%	March	-		13,981	94.0%	13,310	81.5%	13,992	85.6%	14,192	86.9%	April	-		13,583	94.3%	13,460	85.1%	13,960	88.3%	13,906	88.0%	May	-		14,205	86.9%	13,618	83.3%	14,508	88.8%	14,534	89.0%	June	-		13,179	83.4%	14,161	89.6%	13,579	85.9%	14,066	89.0%	July	-		14,219	87.0%	14,343	87.8%	14,301	87.5%	13,579	83.1%	August	-		14,383	88.0%	14,541	89.0%	14,426	88.3%	14,070	86.1%	September	5,067		13,907	88.0%	13,995	88.5%	13,849	87.6%	12,223	77.3%	October	13,179	88.6%	14,201	86.9%	14,194	86.9%	14,309	87.6%	11,680	71.5%	November	13,467	93.5%	13,885	87.8%	13,752	87.0%	14,221	89.9%	13,957	88.3%	December	13,380	89.9%	14,216	87.0%	14,442	88.4%	14,725	90.1%	14,355	87.9%	TOTAL	45,092		166,522		167,476		165,188		163,827	
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Response of DOE	<p>1) The revised capacity value is ok. This has been evidenced by a statement issued by ANEEL (Brazilian Electricity Agency). The Verification report has been revised accordingly (chapter 1.3.5).</p>																																																																																																																																																																					

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| | <ul style="list-style-type: none">2) The corresponding request for deviation has been issued.3) The verification team is convinced that the capacity correction does not question any assessment which led to a positive validation opinion.4) The emission reduction calculation is not affected by this capacity correction.5) The project proponents corrected the capacity value in the monitoring report. |
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If this information (incl. the revised monitoring report and verification report) is not sufficient to close the request for review, we appoint Mr. Rainer Winter as our contact person.

Mr. Rainer Winter
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