

## **CDM VALIDATION PROTOCOL FOR THE COMPANY:**

**CAPEX, S.A.**

## **VALIDATION OF THE PROJECT ACTIVITY**

**Agua del Cajón Thermal Power Plant  
Open to combined cycle conversion**

**Plottier, Neuquén, Argentina**

**REFERENCE NUMBER: 2005/0003/CDM/01**

**REPORT NUMBER: 03**

| <b>Validation Type</b>   |                     |
|--|---------------------|
| Validation of a project activity                                   |                     |
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**Table 1 Mandatory Requirements for Clean Development Mechanism (CDM) Project Activities**

| REQUIREMENT   | REFERENCE   | CONCLUSION | Cross Reference / Comment  |
|---|---|------------|--|
| 1. The project shall assist Parties included in Annex I in achieving compliance with part of their emission reduction commitment under Art. 3   | Kyoto Protocol Art.12.2   | YES        | Table 2, Section E.4.  |
| 2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof   | Kyoto Protocol Art. 12.2, Marrakesh Accords, CDM Modalities §40a  | YES        | Table 2, Section A.3<br>Letter of approval by the Argentina's DNA, dated February 1 <sup>st</sup> , 2006     |
| 3. The project shall assist non-Annex I Parties in contributing to the ultimate objective of the UNFCCC   | Kyoto Protocol Art.12.2.  | YES        | Table 2, Section E.4<br>The project assists Argentina in contributing to the ultimate objective of de UNFCCC |
| 4. The project shall have the written approval of voluntary participation from the designated national authorities of each party involved   | Kyoto Protocol Art. 12.5a, Marrakesh Accords, CDM Modalities §40a | YES        | Letter of approval by the Argentina's DNA, dated February 1 <sup>st</sup> , 2006                             |
| 5. The emission reductions shall be real, measurable and give long-term benefits related to the mitigation of climate change  | Kyoto Protocol Art. 12.5b   | YES        | Table 2, Section E   |
| 6. Reduction in GHG emissions shall be additional to any that would occur in absence of the project activity, i.e. a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM | Kyoto Protocol Art. 12.5c, Marrakesh Accords, CDM Modalities §43  | YES        | Table 2, Section B.2   |

| REQUIREMENT   | REFERENCE                              | CONCLUSION | Cross Reference / Comment   |
|---|--|------------|---|
| project activity  |  |            |   |
| 7. Potential public funding for the project from Parties in Annex I shall not be a diversion of official development assistance   | Marrakech Accords                      | N/A        | It is not foreseen to receive or seek any public funding from any Annex I party and AENOR has not come across any indication about ODA during the validation process. |
| 8. Parties participating in the CDM shall designate a national authority for the CDM  | Marrakech Accords, CDM Modalities §29  | YES        | Government of Argentina has designated a DNA. No Annex I Party is yet identified.   |
| 9. The host country shall be a Party to the Kyoto Protocol  | Marrakech Accords, CDM Modalities §30  | YES        | Date of ratification: 2001/09/28<br>Source: UNFCCC  |
| 10. Comments by local stakeholders shall be invited, a summary of these provided and how due account was taken of any comments received   | Marrakech Accords, CDM Modalities §37b | YES        | Table 2, Section G  |
| 11. Documentation on the analysis of the environmental impacts of the project activity, including transboundary impacts, shall be submitted, and, if those impacts are considered significant by the project participants or the Host Party, an environmental impact assessment in accordance with procedures as required by the Host Party shall be carried out. | Marrakech Accords, CDM Modalities §37c | YES        | Table 2, Section F  |
| 12. Baseline and monitoring methodology shall be previously approved by the CDM Methodology Panel   | Marrakech Accords, CDM                 | YES        | Table 2, Section B.1.1 and D.1.1  |

| REQUIREMENT  | REFERENCE   | CONCLUSION | Cross Reference / Comment   |
|--|---|------------|---|
|  | Modalities §37e   |            |   |
| 13. Provisions for monitoring, verification and reporting shall be in accordance with the modalities described in the Marrakech Accords and relevant decisions of the COP/MOP  | Marrakech Accords, CDM Modalities §37f                      | YES        | Table 2, Section D  |
| 14. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for minimum 30 days, and the project design document and comments have been made publicly available | Marrakech Accords, CDM Modalities, §40                      | YES        | The project design document has been made publicly available on 2005/11/30 for minimum 30 days on the UNFCCC web site |
| 15. A baseline shall be established on a project-specific basis, in a transparent manner and taking into account relevant national and/or sectoral policies and circumstances  | Marrakech Accords, CDM Modalities, §45c,d                   | YES        | Table 2, Section B.2  |
| 16. The baseline methodology shall exclude to earn CERs for decreases in activity levels outside the project activity or due to force majeure  | Marrakech Accords, CDM Modalities, §47                      | YES        | Table 2, Section B.2  |
| 17. The project design document shall be in conformance with the UNFCCC CDM-PDD format   | Marrakech Accords, CDM Modalities, Appendix B, EB Decisions | YES        |   |

**Table 2 Requirements Checklist**

| CHECKLIST QUESTION   | Ref.          | MoV*        | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|--|---------------|-------------|--|----------------|----------------|
| <b>A. General Description of Project Activity</b><br><i>The project design is assessed.</i>  |               |             |  |                |                |
| <b>A.1. Project Boundaries</b><br><i>Project Boundaries are the limits and borders defining the GHG emission reduction project.</i>  |               |             |  |                |                |
| A.1.1. Are the project's spatial (geographical) boundaries clearly defined?  | 1<br>33<br>34 | DR          | The project is located on the Route 22, at the km 1,244.5 landmark, on the way to China Muerta, in Plottier, province of Neuquén. The thermal power plant is in a strategic location, on the gas reservoir that supplies the fuel.<br><br>The PDD includes a map with the exact location of the project. | OK             | OK             |
| A.1.2. Are the project's system (components and facilities used to mitigate GHGs) boundaries clearly defined?  | 1<br>30<br>31 | DR          | Detailed technical information of the existing equipment prior to project implementation and the equipment added for implementing the proposed project activity, has been provided.  | OK             | OK             |
| <b>A.2. Technology to be employed</b><br><i>Validation of project technology focuses on the project engineering, choice of technology and competence/maintenance needs. The validator should ensure that environmentally safe and sound technology and know-how is used.</i> |               |             |  |                |                |
| A.2.1. Does the project design engineering reflect current good practices?   | 1<br>28<br>29 | DR<br><br>I | The project design engineering reflects current good practices by performing different activities such as:<br>- Study of the natural gas reserves<br>- Life time of operation and concession   | OK             | OK             |

\* MoV = Means of Verification, DR= Document Review, I= Interview

| CHECKLIST QUESTION  | Ref.                       | MoV*    | COMMENTS  | Draft<br>Concl | Final<br>Concl |
|---|----------------------------|---------|---|----------------|----------------|
|   | 30<br>31<br>32<br>33<br>34 |         | <ul style="list-style-type: none"> <li>- Energy efficiency analysis of the investment alternatives</li> <li>- Plant performance test</li> <li>- Water consumption test</li> <li>- Reliability test</li> <li>- Noise test</li> <li>- Unfired / Fired performance test</li> <li>- Electricity market study (spot price, dispatch merit, demand forecast, ...)</li> <li>- High Voltage power line evaluation</li> <li>- Maintenance program design</li> <li>- EIA</li> <li>- Environmental parameter within decision making process</li> </ul>   |                |                |
| A.2.2. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country? | 1<br>30<br>31              | DR<br>I | <p>The project uses the state of the art technology to generate electricity from a CCGT. Moreover, no combined cycle exists in Argentina with the technology used in Agua del Cajón power plant (six gas turbines and one steam turbine in a combined cycle) and where the gas belongs to the own field.</p> <p>The project consisted in converting six gas turbines from simple (open) cycle operation into combined cycle operation. The combined cycle takes advantage of the exhaust gases from the gas turbines to produce steam in the recovery boilers installed in each gas turbine. The steam produced by the six recovery boilers drives a steam turbine. The steam that leaves the turbine passes through a condenser and then through the pump feed water cycle, the heaters and the water treatment plant and then it goes back to the HRSG where, with the help of supplementary fire, another 100 MW effective can be generated.</p> <p>Technical data of equipment added for implementing the proposed project activity:</p> <p>One Mitsubishi steam turbo generator</p> <p>Total gross power: 301 MW</p> | OK             | OK             |

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|--|---|---------|---|----------------|----------------|
|  |   |         | Total net power: 285 MW<br>Rated voltage: 16.5 kV<br>Rated frequency: 50 Hz<br>Net power without supplementary fire: 182 MW   |                |                |
| A.2.3. Is the project technology likely to be substituted by other or more efficient technologies within the project period?               | 1<br>30<br>31   | DR<br>I | The project technology will not be likely substituted by other technology.  | OK             | OK             |
| A.2.4. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period? | 1<br>30<br>31   | DR<br>I | The project required initial training and maintenance efforts due to the CCGT technology described was not used by CAPEX before.  | OK             | OK             |
| A.2.5. Does the project make provisions for meeting training and maintenance needs?  | 1<br>30<br>31   | DR<br>I | CAPEX addressed the training and maintenance as key parts for project success. For this purpose they were supported by experts from the manufacturing group (Mitsubishi) and engineering firms such as Bruns & McDonnell and German firm Steag.   | OK             | OK             |
| <b>A.3. Contribution to Sustainable Development</b><br><i>The project's contribution to sustainable development is assessed.</i>           |   |         |   |                |                |
| A.3.1. Is the project in line with relevant legislation and plans in the host country?   | 1<br>10<br>11<br>26<br>32<br>33<br>34<br>35<br>36<br>37 | DR<br>I | The PDD described in detail the legal framework. According to the PDD, the project Agua del Cajón conversion to combined cycle, is in line with the relevant legislation related to its activity:<br>* National legislation concerning<br>- Air Preservation<br>- Wildlife protection and conservation<br>- Construction<br>- Soil conservation<br>- (...)<br>* Provincial legislation concerning<br>- Environmental protection<br>- Water for industrial uses<br>- (...) | GL1            | OK             |

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|---|---|---------|---|----------------|----------------|
|   | 38<br>39<br>52  |         | * Legislation regarding thermal power plants and the electricity market<br><br>Clarify the fulfilment of legislation applicable to the project.   |                |                |
| A.3.2. Is the project in line with host-country specific CDM requirements?                          | 1   | DR<br>I | The approval letter of the Argentina's DNA has not been issued yet.   | CAR4           | OK             |
| A.3.3. Is the project in line with sustainable development policies of the host country?            | 1<br>26<br>38   | DR<br>I | The project is in line with sustainable development policies of the host country by increasing the energy efficiency and improve the rationale use of the natural resources.<br><br>Clarify the existence of any official support to the contribution to the sustainable development of Argentina.  | GL2            | OK             |
| A.3.4. Will the project create other environmental or social benefits than GHG emission reductions? | 1<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51 | DR<br>I | The project has created (and is creating) the following additional benefits:<br>- Use of autochthonous energy resources.<br>- Energy efficiency increase.<br>- During its development stage, different jobs were created.<br>- Permanent jobs once it became commercially operational.<br>- Provincial and national tax contributions.<br>- Contribution to the electricity grid stability by adding power in a reliable way.<br>- Environmental awareness and climate change information to the public | OK             | OK             |



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|--|------------------|-------------|--|----------------|----------------|
| <b>B. Project Baseline</b><br><i>The validation of the project baseline establishes whether the selected baseline methodology is appropriate and whether the selected baseline represents a likely baseline scenario.</i>  |                  |             |  |                |                |
| <b>B.1. Baseline Methodology</b><br><i>It is assessed whether the project applies an appropriate baseline methodology.</i>   |                  |             |  |                |                |
| B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?   | 1<br>4<br>5<br>6 | DR          | The project applies the approved consolidated methodology ACM0007 "Methodology for conversion from single cycle to combined cycle power generation".<br><br>Moreover it applies ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" and the tool for the demonstration and assessment of the additionality. | OK             | OK             |
| B.1.2. Is the baseline methodology the one deemed most applicable for this project and is the appropriateness justified?   | 1<br>4<br>5      | DR          | Approved baselines methodologies ACM0007 and ACM0002 are applicable under several conditions. Agua del Cajón fulfils the applicability criteria.   | OK             | OK             |
| <b>B.2. Baseline Determination</b><br><i>The choice of baseline will be validated with focus on whether the baseline is a likely scenario, whether the project itself is not a likely baseline scenario, and whether the baseline is complete and transparent.</i> |                  |             |  |                |                |
| B.2.1. Is the application of the methodology and the discussion and determination of the chosen baseline transparent?  | 1<br>4<br>5<br>7 | DR<br><br>I | The baseline scenario is that in the absence of the proposed project activity the electricity, to meet the demand in the grid system, will be generated by the existing grid-connected Argentinean power plants and new generation sources to the grid of Argentina and  | CL3            | OK             |

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|--------------------|------|------|--|----------------|----------------|
|                    | 8    |      | on the other hand by the operation of the exiting power plant in open cycle mode and the addition of a new gas turbine of 105 MW.  |                |                |
|                    | 9    |      |  |                |                |
|                    | 12   |      |  |                |                |
|                    | 13   |      | The PDD presents a clear analysis of the different investment alternatives and described how the scenario with the least barriers was to install a new gas turbine of 105 MW, continuing with the current practice of CAPEX that consisted of exploited the natural gas reserves of its own gas field by means of gas turbines in open cycle. CAPEX was expanding its capacity at the rate new reserves of natural gas were found. |                |                |
|                    | 14   |      |  |                |                |
|                    | 15   |      |  |                |                |
|                    | 16   |      |  |                |                |
|                    | 28   |      |  |                |                |
|                    | 29   |      |  |                |                |
|                    | 30   |      | The baseline emissions due to displacement of electricity are calculated according to the four steps described in ACM0007.   |                |                |
|                    | 31   |      | The emission factor (EFy) has been calculated as a combined margin according to the three steps stated in ACM0002 and calculations for this combined margin have been based on data from official source.  |                |                |
|                    |      |      | The dispatch data analysis has been selected for the calculation of the OM.  |                |                |
|                    |      |      | The BM is calculated by selecting the power plants capacity additions in the electricity system that comprise 20% of the system generation (in MWh) and that have been built most recently. This figure compromises more annual generation that the other alternative.   |                |                |
|                    |      |      | Some clarifications are needed:  |                |                |
|                    |      |      | - Data included in the financial models of the alternatives presented.   |                |                |
|                    |      |      | - Natural gas reserves estimation and business alternatives development.   |                |                |
|                    |      |      | - Dispatch data and electricity imports from the regional area of Patagonia.   |                |                |
|                    |      |      | - Efficiency rate of the power plants.   |                |                |

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|---|----------------------------------|---------|--|----------------|----------------|
|   |                                  |         | <ul style="list-style-type: none"> <li>- Computational method</li> <li>- Unfired / Fired performance test</li> <li>- Dispatch of the power plant.</li> </ul>   |                |                |
| B.2.2. Has the baseline been determined using conservative assumptions where possible?  | 1<br>15<br>23                    | DR<br>I | <p>Different conservative assumptions have been used such as:</p> <ul style="list-style-type: none"> <li>- When CAMMESA cannot provide dispatch details for some days, the emissions displaced by the CDM project activity is considered 0.</li> <li>- The CERs price considered in the financial model was taken from the medium estimate conducted by IUEP.</li> </ul>   | OK             | OK             |
| B.2.3. Has the baseline been established on a project-specific basis?   | 1<br>4<br>5                      | DR      | The approved methodology AMC0007 and AMC0002 is based on elements from different project-specific methodologies.   | OK             | OK             |
| B.2.4. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations? | 1<br>4<br>5<br>7<br>8<br>9<br>30 | DR<br>I | <p>The baseline for the Agua del Cajón Project is determined following the method and formulae given in the approved methodology ACM0007 and ACM0002.</p> <p>The PDD calculates factors and margins according to these methodologies such as the emission factor for Argentina's national grid.</p> <p>By the application of these factors and based on the documents referred to in the PDD, energy policies and trends are included. The PDD includes an exhaustive analysis of the sectoral and national policies related with the electrical energy sector, which support sufficiently the baseline determination.</p> | OK             | OK             |
| B.2.5. Is the baseline determination compatible with the available data?  | 1<br>7<br>8<br>9<br>28<br>29     | DR<br>I | The baseline scenario is supported by available data.  | OK             | OK             |

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|--|--|---------|---|----------------|----------------|
|  | 30<br>31   |         |   |                |                |
| B.2.6. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?  | 1<br>4<br>5<br>7<br>8<br>9<br>28<br>29<br>30<br>31 | DR<br>I | <p>The baseline scenario is, that in the absence of the proposed project activity, the electricity to meet the demand in the grid system, will be generated by the existing grid-connected Argentinean power plants and new generation sources to the grid of Argentina and on the other hand by the operation of the exiting power plant in open cycle mode and the addition of a new gas turbine of 105 MW.</p> <p>The PDD presents a clear analysis of the different investment alternatives and described how the scenario with the least barriers was to construct and operate a new gas turbine of 105 MW, continuing with the current practice of CAPEX that consisted of exploited the natural gas reserves of its own gas field by means of gas turbines in open cycle. CAPEX was expanding its capacity at the rate new reserves of natural gas were found.</p> <p>Some clarifications are needed:</p> <ul style="list-style-type: none"> <li>- Data included in the financial models of the alternatives presented.</li> <li>- Natural gas reserves estimation and business alternatives development.</li> </ul> | GL3            | OK             |
| B.2.7. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario (e.g. through (a) a flow-chart or series of questions that lead to a narrowing of potential baseline options, (b) a qualitative or quantitative assessment of different potential options and an indication of why the non-project option is more likely, (c) a qualitative or quantitative assessment of one or more barriers facing the | 1<br>6<br>7<br>8<br>9<br>10<br>11<br>17<br>18      | DR<br>I | <p>The PDD justifies that the project itself is not a likely baseline scenario through the demonstration of its additionality by applying the necessary steps of the tool for the demonstration and assessment of additionality.</p> <p>Step 0. Preliminary screening based on the starting date of the project activity. CAPEX provided evidences that the starting date of the CDM project activity falls after 1 January 2000. The real action (commercial operation), the real and measurable reduction of GHG started on 17 January 2000. The</p>  | GL3            | OK             |

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|---|--|------|--|----------------|----------------|
| proposed project activity or (d) an indication that the project type is not common practice in the proposed area of implementation, and not required by a Party's legislation/regulations)? | 19<br>20<br>21<br>22<br>23<br>24<br>25<br>26<br>27<br>28<br>29<br>30<br>31 |      | <p>documental evidence was also supported during the interviews with CAMMESA and ENRE.</p> <p>On the other hand the followings evidences were provided that ensure that CAPEX seriously considered the CDM in the decision to proceed with the project activity.</p> <ul style="list-style-type: none"> <li>- Financial statements of the company audited by PWC from 1999 to 2005.</li> <li>- Communications to the Stock Exchange in Buenos Aires in 1999 and 2000.</li> <li>- Communication with the US Secretary of Energy concerning the submission of the project for USIJI (United States Initiative on Joint Implementation) with the assistance of the International Utility Efficiency Partnership (IUEP). 1997-11-19. CAPEX.</li> <li>- Communication with CAPEX concerning USIJI approval and carbon ton price. 1998-02-10. IUEP</li> <li>- Communication with CAPEX concerning USIJI approval and credits trading. 1998-05-08. IUEP</li> <li>- Acceptance of "The CAPSA Project: Simple to Combined Cycle Conversion" into the USIJI program. 1999-03-09. USIJI.</li> <li>- Ref. SRN-614/98. Future credits recognition to CAPEX and Argentina country from Secretaria de Recursos Naturales y Desarrollo Sustentable.</li> </ul> <p>Steps 1, 2, 3, 4 and 5 are presented in the PDD, as stated in the tool for the demonstration and assessment of additionality, in a very transparent manner.</p> <p>The PDD calculates the project IRR (as the suitable financial indicator) for the CDM project activity and for the other alternatives considered in the step 1. A sensitivity analysis is carried out then considering</p> |                |                |

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|--------------------|------|------|---|----------------|----------------|
|                    |      |      | <p>critical assumptions: average dispatch factor, discount rate, electricity prices and emission reduction volume and CER prices.</p> <p>All the alternatives have calculated parameters (plant factor, total investment, cost of gas, natural gas consumption, IRR, NPV and payback period) that allow a clear comparison. Continuation of existing open cycle, open cycle expansion (185 MW with limited and unlimited availability of own gas) and combined cycle without CERs are unattractive and unfeasible compared with the 105 MW gas turbine expansion in open cycle.</p> <p>In addition, the PDD shows barriers due to prevailing practice in Argentina where the majority of CCGT plants consist of a package including two gas turbines and one steam turbine, being connected to the natural gas pipeline. On the contrary this CDM project consists of six gas turbines and one steam turbine, what implies a lower heat rate due to heat losses along the additional extension of pipelines needed to interconnect the whole power plant with also the additional investment needed in infrastructure.</p> <p>An important technological barrier is also addressed in the PDD since this project represented an untested use of a new technology for CAPEX with the associated risk related to the lack of skill, affecting efficiency and performance of the new equipment and package, leading sometimes to equipment disrepair and malfunctioning.</p> <p>Step 4 shows that there are no other activities similar to the proposed project activity and finally step 5 demonstrates that the impact of CDM registration will not only make feasible the project activity by means of extra revenues but also will bring benefits related to technology upgrade, business leadership, public recognition and participation in a new emergent</p> |                |                |

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|--|--|---------|---|----------------|----------------|
|  |  |         | carbon market.<br>Some clarifications are needed:<br>- Data included in the financial models of the alternatives presented.<br>- Natural gas reserves estimation and business alternatives development.<br>- Unfired / Fired performance test.<br>- Dispatch of the power plant.  |                |                |
| B.2.8. Have the major risks to the baseline been identified? | 1  | DR      | Some major risks to the baseline are identified such as gas availability, electricity price or dispatch merit.  | OK             | OK             |
| B.2.9. Is all literature and sources clearly referenced?     | 1<br>4<br>5<br>7<br>8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18<br>19<br>20<br>21<br>22<br>23 | DR<br>I | Some clarifications are needed:<br>- Data included in the financial models of the alternatives presented.<br>- Natural gas reserves estimation and business alternatives development.<br>- Dispatch data and electricity imports from the regional area of Patagonia.<br>- Efficiency rate of the power plants.<br>- Computational method<br>- Dispatch of the power plant. | CL3            | OK             |

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|--|--|---------|--|----------------|----------------|
|  | 24<br>25<br>26<br>28<br>29<br>30<br>31 |         |  |                |                |
| <b>C. Duration of the Project/ Crediting Period</b><br><i>It is assessed whether the temporary boundaries of the project are clearly defined.</i>                  |  |         |  |                |                |
| C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?  | 1<br>6<br>10<br>11                     | DR<br>I | The starting date of the CDM project activity falls after 1 January 2000. The real action (commercial operation), the real and measurable reduction of GHG started on 17 January 2000.<br><br>The documental evidence was also supported during the interviews with CAMMESA and ENRE.<br><br>The project activity is expected to have a minimum lifetime of 25 years from starting date. | OK             | OK             |
| C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max. two x 7 years or fixed crediting period of max. 10 years)? | 1<br>10<br>11                          | DR      | This crediting period is clearly defined in the PDD. Starting date 2000/01/17 with renewable crediting periods.  | OK             | OK             |

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|--|-------------|---------|--|----------------|----------------|
| <b>D. Monitoring Plan</b><br><i>The monitoring plan review aims to establish whether all relevant project aspects deemed necessary to monitor and report reliable emission reductions are properly addressed ((Blue text contains requirements to be assessed for optional review of monitoring methodology prior to submission and approval by CDM EB).</i> |             |         |  |                |                |
| <b>D.1. Monitoring Methodology</b><br><i>It is assessed whether the project applies an appropriate baseline methodology.</i>   |             |         |  |                |                |
| D.1.1. Is the monitoring methodology previously approved by the CDM Methodology Panel?   | 1<br>4<br>5 | DR      | The project applies the approved consolidated methodologies ACM0007 "Methodology for conversion from single cycle to combined cycle power generation" and ACM0002 "Consolidated baseline methodology for grid-connected electricity generation from renewable sources" | OK             | OK             |
| D.1.2. Is the monitoring methodology applicable for this project and is the appropriateness justified?   | 1<br>4<br>5 | DR      | The appropriateness of the monitoring methodology is justified in part D.2 of the PDD.   | OK             | OK             |
| D.1.3. Does the monitoring methodology reflect good monitoring and reporting practices?  | 1<br>4<br>5 | DR<br>I | The monitoring plan establishes the responsibilities assignation, data collection and recording frequencies.   | OK             | OK             |
| D.1.4. Is the discussion and selection of the monitoring methodology transparent?  |             |         | Idem D.1.2   | OK             | OK             |

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| CHECKLIST QUESTION  | Ref.  | MoV*        | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|---|---|-------------|--|----------------|----------------|
| <b>D.2. Monitoring of Project Emissions</b><br><i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i>   |   |             |  |                |                |
| D.2.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the greenhouse gas emissions within the project boundary during the crediting period? | 1<br>4<br>5<br>16<br>27<br>30<br>31<br>32<br>39<br>40<br>52 | DR<br><br>I | On-site fossil fuel consumption to supplement waste heat in operating steam turbine and related assumptions have to be clarified.<br><br>Under the assumption that no supplementary fuel is needed to operate the steam turbine, Table D.2.1.1 does not include the necessary parameters according to methodology ACM0007. | CAR2           | OK             |
| D.2.2. Are the choices of project GHG indicators reasonable?  |   |             | Idem D.2.1   | CAR2           | OK             |
| D.2.3. Will it be possible to monitor / measure the specified project GHG indicators?   |   |             | Idem D.2.1   | CAR2           | OK             |
| D.2.4. Will the indicators give opportunity for real measurements of achieved emission reductions?  |   |             | Idem D.2.1   | CAR2           | OK             |
| D.2.5. Will the indicators enable comparison of project data and performance over time?   |   |             | Idem D.2.1   | CAR2           | OK             |

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| CHECKLIST QUESTION   | Ref.                                      | MoV*    | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|--|---|---------|--|----------------|----------------|
| <b>D.3. Monitoring of Leakage</b><br><i>It is assessed whether the monitoring plan provides for reliable and complete leakage data over time.</i>                        |   |         |  |                |                |
| D.3.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?   | 1<br>4<br>5<br>32<br>38<br>39<br>40<br>52 | DR<br>I | As the increased quantity of natural gas consumed by the project activity can be ignored according to the PDD, it is not address the leakage issue according to methodology ACM0007.   | CAR3           | OK             |
| D.3.2. Have relevant indicators for GHG leakage been included?   |   |         | Idem D.3.1   | CAR3           | OK             |
| D.3.3. Will it be possible to monitor the specified GHG leakage indicators?  |   |         | Idem D.3.1   | CAR3           | OK             |
| <b>D.4. Monitoring of Baseline Emissions</b><br><i>It is established whether the monitoring plan provides for reliable and complete project emission data over time.</i> |   |         |  |                |                |
| D.4.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining baseline emissions during the crediting period?  | 1<br>4<br>5<br>12<br>13<br>14<br>15       | DR<br>I | On-site fossil fuel consumption to supplement waste heat in operating steam turbine and related assumptions have to be clarified.<br><br>Under the assumption that no supplementary fuel is needed to operate the steam turbine, Table D.2.1.3 does not include the necessary parameters according to methodology ACM0007. | CAR2           | OK             |

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| CHECKLIST QUESTION   | Ref.   | MoV*    | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|--|--|---------|--|----------------|----------------|
|  | 16<br>27<br>31<br>32<br>38<br>39<br>40<br>52 |         |  |                |                |
| D.4.2. Is the choice of baseline indicators, in particular for baseline emissions, reasonable?   |  |         | Idem D.4.1   | CAR2           | OK             |
| D.4.3. Will it be possible to monitor the specified baseline indicators?   |  |         | Idem D.4.1   | CAR2           | OK             |
| <b>D.5. Monitoring of Sustainable Development Indicators/<br/>Environmental Impacts</b><br><i>It is checked that choices of indicators are<br/>reasonable and complete to monitor sustainable<br/>performance over time.</i> |  |         |  |                |                |
| D.5.1. Does the monitoring plan provide the collection and archiving of relevant data concerning environmental, social and economic impacts?   | 1<br>32<br>39<br>40<br>52                    | DR<br>I | The monitoring plan provides data related to environmental, social and economic impacts. | OK             | OK             |
| D.5.2. Is the choice of indicators for sustainability development (social, environmental, economic) reasonable?  | 1<br>32<br>39<br>40<br>52                    | DR<br>I | The choice of indicators for sustainability development is reasonable.                   | OK             | OK             |

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| CHECKLIST QUESTION   | Ref.                                  | MoV*    | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|--|---------------------------------------|---------|--|----------------|----------------|
| D.5.3. Will it be possible to monitor the specified sustainable development indicators?  | 1<br>32<br>39<br>40<br>52             | DR      | It will be possible to monitor specific sustainable development indicators                                     | OK             | OK             |
| D.5.4. Are the sustainable development indicators in line with stated national priorities in the Host Country?   | 1<br>26<br>32<br>38<br>39<br>40<br>52 | DR      | Clarify the existence of any official support to the contribution to the sustainable development of Argentina. | <del>CL2</del> | OK             |
| <b>D.6. Project Management Planning</b><br><i>It is checked that project implementation is properly prepared for and that critical arrangements are addressed.</i> |                                       |         |  |                |                |
| D.6.1. Is the authority and responsibility of project management clearly described?  | 1<br>32<br>39<br>40<br>52             | DR<br>I | The PDD describes clearly the authority and responsibility of project management.                              | OK             | OK             |
| D.6.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?  | 1<br>32<br>39<br>40<br>52             | DR<br>I | The PDD states that the responsible is the coordinator of the environmental management system.                 | OK             | OK             |
| D.6.3. Are procedures identified for training of   | 1                                     | DR      | There are procedures under the EMS for that purpose.   | OK             | OK             |

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| CHECKLIST QUESTION  | Ref.                      | MoV*    | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|---|---------------------------|---------|--|----------------|----------------|
| monitoring personnel?   | 32<br>39<br>40<br>52      | I       |  |                |                |
| D.6.4. Are procedures identified for emergency preparedness for cases where emergencies can cause unintended emissions?   | 1<br>32<br>39<br>40<br>52 | DR<br>I | There are procedures under the EMS for that purpose. Gas leaks are considered in the procedure 14, safety instructions | OK             | OK             |
| D.6.5. Are procedures identified for calibration of monitoring equipment?   | 1<br>32<br>39<br>40<br>52 | DR<br>I | There are procedures under the EMS for that purpose. Procedure 2, calibration of equipment.                            | OK             | OK             |
| D.6.6. Are procedures identified for maintenance of monitoring equipment and installations?   | 1<br>32<br>39<br>40<br>52 | DR<br>I | There are procedures under the EMS for that purpose.   | OK             | OK             |
| D.6.7. Are procedures identified for monitoring, measurements and reporting?  | 1<br>32<br>39<br>40<br>52 | DR<br>I | D part of the PDD and procedures under the EMS deal with monitoring, measurements and reporting.                       | OK             | OK             |
| D.6.8. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation) | 1<br>32<br>39<br>40       | DR<br>I | D part of the PDD and procedures under the EMS deal with day-to-day records handling.                                  | OK             | OK             |

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| CHECKLIST QUESTION   | Ref.                      | MoV*    | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|--|---------------------------|---------|--|----------------|----------------|
|  | 52                        |         |  |                |                |
| D.6.9. Are procedures identified for dealing with possible monitoring data adjustments and uncertainties?                              | 1<br>32<br>39<br>40<br>52 | DR<br>I | D3 part of the PDD deals with quality control and quality assurance. Procedures and assessment of the uncertainty level of data are described. | OK             | OK             |
| D.6.10. Are procedures identified for review of reported results/data?   | 1<br>32<br>39<br>40<br>52 | DR<br>I | D3 part of the PDD and procedures under the EMS deal with reported results/data.   | OK             | OK             |
| D.6.11. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?        | 1<br>32<br>39<br>40<br>52 | DR<br>I | There are procedures under the EMS for that purpose. Procedure 16, internal audits.  | OK             | OK             |
| D.6.12. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally? | 1<br>32<br>39<br>40<br>52 | DR<br>I | There are procedures under the EMS for that purpose.   | OK             | OK             |
| D.6.13. Are procedures identified for corrective actions in order to provide for more accurate future monitoring and reporting?        | 1<br>32<br>39<br>40<br>52 | DR<br>I | There are procedures under the EMS for that purpose.   | OK             | OK             |

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| CHECKLIST QUESTION   | Ref.                                | MoV*    | COMMENTS  | Draft<br>Concl | Final<br>Concl |
|--|-------------------------------------|---------|---|----------------|----------------|
| <b>E. Calculation of GHG Emissions by Source</b><br><i>It is assessed whether all material GHG emission sources are addressed and how sensitivities and data uncertainties have been addressed to arrive at conservative estimates of projected emission reductions.</i> |                                     |         |   |                |                |
| <b>E.1. Predicted Project GHG Emissions</b><br><i>The validation of predicted project GHG emissions focuses on transparency and completeness of calculations.</i>  |                                     |         |   |                |                |
| E.1.1. Are all aspects related to direct and indirect GHG emissions captured in the project design?  | 1<br>4<br>5<br>16<br>27<br>30<br>31 | DR<br>I | On-site fossil fuel consumption to supplement waste heat in operating steam turbine and related assumptions have to be clarified. | CAR2           | OK             |
| E.1.2. Are the GHG calculations documented in a complete and transparent manner?   |                                     |         | Idem E.1.1  | CAR2           | OK             |
| E.1.3. Have conservative assumptions been used to calculate project GHG emissions?   |                                     |         | Idem E.1.1  | CAR2           | OK             |
| E.1.4. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?   |                                     |         | Idem E.1.1  | CAR2           | OK             |
| E.1.5. Have all relevant greenhouse gases and source categories listed in Kyoto Protocol Annex A been evaluated?   |                                     |         | Idem E.1.1  | CAR2           | OK             |

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| CHECKLIST QUESTION  | Ref.                                      | MoV*    | COMMENTS   | Draft<br>Concl                    | Final<br>Concl |
|---|---|---------|--|-----------------------------------|----------------|
| <b>E.2. Leakage</b><br><i>It is assessed whether there leakage effects, i.e. change of emissions which occurs outside the project boundary and which are measurable and attributable to the project, have been properly assessed.</i> |   |         |  |                                   |                |
| E.2.1. Are potential leakage effects beyond the chosen project boundaries properly identified?  | 1<br>4<br>5<br>16<br>32<br>39<br>40<br>52 | DR<br>I | As the increased quantity of natural gas consumed by the project activity can be ignored according to the PDD, it is not address the leakage issue according to methodology ACM0007.                   | <del>CAR3</del>                   | OK             |
| E.2.2. Have these leakage effects been properly accounted for in calculations?  |   |         | Idem E.2.1   | <del>CAR3</del>                   | OK             |
| E.2.3. Does the procedures for calculating leakage comply with the approved methodology?  |   |         | Idem E.2.1   | <del>CAR3</del>                   | OK             |
| <b>E.3. Baseline Emissions</b><br><i>The validation of predicted baseline GHG emissions focuses on transparency and completeness of calculations.</i>   |   |         |  |                                   |                |
| E.3.1. Have the most relevant and likely operational characteristics and baseline indicators been chosen as reference for baseline emissions?   | 1<br>4<br>5<br>7                          | DR      | Some clarifications are needed:<br>- Net capacity.<br>- Dispatch data and electricity imports from the regional area of Patagonia.<br>- Efficiency rate of the power plants.<br>- Computational method | <del>GL3</del><br><del>CAR2</del> | OK             |

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| CHECKLIST QUESTION   | Ref.   | MoV* | COMMENTS  | Draft<br>Concl | Final<br>Concl |
|--|--|------|---|----------------|----------------|
|  | 8<br>9<br>12<br>13<br>14<br>15<br>16<br>27<br>28<br>29<br>30<br>31 |      | <ul style="list-style-type: none"> <li>- Unfired / Fired performance test</li> <li>- Dispatch of the power plant.</li> </ul> <p>On-site fossil fuel consumption to supplement waste heat in operating steam turbine and related assumptions have to be clarified.</p> |                |                |
| E.3.2. Are the baseline boundaries clearly defined and do they sufficiently cover sources and sinks for baseline emissions?                        |  |      | Idem E.3.1  | CL3<br>CAR2    | OK             |
| E.3.3. Are the GHG calculations documented in a complete and transparent manner?   |  |      | Idem E.3.1.   | CL3<br>CAR2    | OK             |
| E.3.4. Have conservative assumptions been used when calculating baseline emissions?  |  |      | Idem E.3.1.   | CL3<br>CAR2    | OK             |
| E.3.5. Are uncertainties in the GHG emission estimates properly addressed in the documentation?  |  |      | Idem E.3.1  | CL3<br>CAR2    | OK             |
| E.3.6. Have the project baseline(s) and the project emissions been determined using the same appropriate methodology and conservative assumptions? |  |      | Idem E.3.1.   | CL3<br>CAR2    | OK             |

| CHECKLIST QUESTION  | Ref.                            | MoV*    | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|---|---------------------------------|---------|--|----------------|----------------|
| <b>E.4. Emission Reductions</b><br>Validation of baseline GHG emissions will focus on methodology transparency and completeness in emission estimations.                                      |                                 |         |  |                |                |
| E.4.1. Will the project result in fewer GHG emissions than the baseline scenario?   | 1<br>4<br>5<br>6                | DR<br>I | Agua del Cajón CDM Project is resulting in fewer GHG emissions than the baseline scenario.   | OK             | OK             |
| <b>F. Environmental Impacts</b><br><i>Documentation on the analysis of the environmental impacts will be assessed, and if deemed significant, an EIA should be provided to the validator.</i> |                                 |         |  |                |                |
| F.1.1. Has an analysis of the environmental impacts of the project activity been sufficiently described?  | 1<br>32<br>33<br>34<br>38<br>39 | DR<br>I | The Environmental Impact Assessment (EIA) was performed by Equilibrium S.A. ("Environmental Impact Assessment Study- Detailed Design Stage, Conversion of <i>Agua del Cajón</i> Thermal Power Plant into Combined Cycle," Province of Neuquén, 1998).<br><br>The EIA analyzed the environmental impact caused by every aspect of the project, taking into account the water collection from the Limay river, the construction of the feed water pipeline, the effluent drainage from the cooling system and the power plant emissions into the atmosphere once the combined cycle conversion is completed. Moreover, the EIA also dealt with additional issues regarding the construction of a materials yard and its driveway, that were necessary in order to carry out the project. | OK             | OK             |
| F.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?  | 1<br>32<br>33                   | DR<br>I | The environmental law fulfilment has to be clarified.  | GL4            | OK             |

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| CHECKLIST QUESTION   | Ref.   | MoV*    | COMMENTS  | Draft<br>Concl | Final<br>Concl |
|--|--|---------|---|----------------|----------------|
|  | 34<br>35<br>36<br>37<br>38<br>39<br>40<br>52 |         |   |                |                |
| F.1.3. Will the project create any adverse environmental effects?                  | 1<br>32<br>33<br>34<br>38<br>39<br>40<br>52  | DR<br>I | The minimal adverse environmental effects and the needed mitigation measures are addressed in the EIA.<br><br>The preparation of the Environmental Protection Plan (EPP) has taken into consideration some measures to reduce the environmental impact during the construction and operation stages of the installations. | OK             | OK             |
| F.1.4. Are transboundary environmental impacts considered in the analysis?         | 1<br>33<br>34<br>38<br>39<br>40<br>52        | DR      | EIA is limited to the area affected by the project and it does not affect other countries or regions.   | OK             | OK             |
| F.1.5. Have identified environmental impacts been addressed in the project design? |  |         | Idem F.1.3  | OK             | OK             |
| F.1.6. Does the project comply with environmental legislation in the host country? |  |         | Idem F.1.2  | OK             | OK             |

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| CHECKLIST QUESTION   | Ref.  | MoV* | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|--|---|------|--|----------------|----------------|
| <b>G. Stakeholder Comments</b><br><i>The validator should ensure that a stakeholder comments have been invited and that due account has been taken of any comments received.</i> |   |      |  |                |                |
| G.1.1. Have relevant stakeholders been consulted?  | 1<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51 | DR   | <p>Stakeholder comments were collected during the second half of 2005, under the adage "Our commitment with the Environment."</p> <p>A survey was performed, by sending a questionnaire to stakeholders representing the interests of the local community (represented by high school), municipal, provincial and national governmental authorities, sectoral associations, and local and national NGOs. The list of people consulted is given below.</p> <ol style="list-style-type: none"> <li>1. Dr. Alberto Natale, National Congress.</li> <li>2. Ricardo Martínez Leone, ENRE (Electricity Regulation National Entity).</li> <li>3. Sabino Mastrángelo, CAMMESA.</li> <li>4. Prof. Pilar Gómez, Plottier Municipality.</li> <li>5. Adriana Kowalewski, AGEERA (Argentina Electricity Generators Association).</li> <li>6. Walter Schmale, IAPG (Argentine Institute of Oil and Gas).</li> <li>7. Arturo Acevedo, CEADS (Argentine Business Council for the Sustainable Development).</li> <li>8. Javier Corcuera, FVSA (Argentine Wildlife Fund).</li> <li>9. Patricio Sutton, Fundación Cruzada Patagónica.</li> <li>10. Horacio de Beláustegui, Fundación Biósfera.</li> </ol> | OK             | OK             |
| G.1.2. Have appropriate media been used to invite comments by local stakeholders?  | 1<br>41<br>42<br>43   | DR   | Appropriate media has been used to invite comments by local stakeholders   | OK             | OK             |

| CHECKLIST QUESTION  | Ref.  | MoV* | COMMENTS   | Draft<br>Concl | Final<br>Concl |
|---|---|------|--|----------------|----------------|
|   | 44<br>45<br>46<br>47<br>48<br>49<br>50<br>51                        |      |  |                |                |
| G.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws? |   | DR   | N/A  | OK             | OK             |
| G.1.4. Is a summary of the stakeholder comments received provided?  | 1<br>41<br>42<br>43<br>44<br>45<br>46<br>47<br>48<br>49<br>50<br>51 | DR   | The PDD describes clearly the stakeholder comments received  | OK             | OK             |
| G.1.5. Has due account been taken of any stakeholder comments received?   | 1<br>41<br>42<br>43   | DR   | All the comments received expressed the good predisposition of people with respect to the project.<br><br>As a consequence of the comments received by high school students to the above-mentioned survey, a motivation arose for developing an outreach activity in | OK             | OK             |

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|--------------------|------|------|--|----------------|----------------|
|                    | 44   |      | line with the environmental concerns of CAPEX.   |                |                |
|                    | 45   |      | Students showed a great concern about public<br>consciousness campaigns.   |                |                |
|                    | 46   |      |  |                |                |
|                    | 47   |      | The award ceremony and closure of this outreach<br>activity was held on November 24 <sup>nd</sup> 2005 in the sport<br>gymnasium of the Spanish Center Club of Plottier, |                |                |
|                    | 48   |      | with the participation of relevant local and provincial<br>authorities , a renowned artist (Iván Moricz Karl), and   |                |                |
|                    | 49   |      | pupils and teachers of the attendant schools. These  |                |                |
|                    | 50   |      | people formed the jury of the drawing competition and<br>granted the awards to the selected works. The   |                |                |
|                    | 51   |      | Municipality of Plottier has declared this outreach<br>activity as a Public Good Event (Declaration N°<br>028/05, Concejo Deliberante de Plottier, 3 November<br>2005).  |                |                |

**Table 3 Resolution of Corrective Action and Clarification Requests**

| <b>Draft report clarifications and corrective action requests by validation team</b>   | <b>Ref. to checklist question in table 2</b>      | <b>Summary of project owner response</b>  | <b>Validation team conclusion</b> |
|--|---|---|-----------------------------------|
| CL1<br>Clarify the fulfilment of legislation applicable to the project.  | A.3.1   | CAPEX organised interviews with all relevant legislators at request of the validation team. The following regulatory bodies confirmed that Agua del Cajón is in line with the relevant legislation:<br>- ENRE<br>- CAMMESA<br>- Municipality<br>- DNA of Argentina  | CL1 is solved.                    |
| CAR1<br>The approval letter of the Argentina's DNA has not been issued yet.  | A.3.2   | The Argentina DNA issued the approval letter on February 1 <sup>st</sup> , 2006, stating the voluntary participation of the Republic of Argentina and the contribution of the project to the sustainable development of the host country.   | CAR1 is solved.                   |
| CL2<br>Clarify the existence of any official support to the contribution to the sustainable development of Argentina.  | A.3.3<br>D.5.4                                    | CAPEX provided the document Ref. SRN-614/98 where SADS-MSA recognised that the project was beneficial for the environment under a sustainable energy development. The note ENRE 62489 recognised also the fulfilment of the environmental law related to emissions and contribution to sustain the environment of the region and of Argentina.<br><br>Moreover during the interview with the Argentina's DNA, ENRE and municipality, it was confirmed that the project Agua del Cajón contributes to the sustainable development of Argentina.  | CL2 is solved.                    |
| CL3<br>The baseline scenario and additionality of the project<br>Some clarifications are needed:<br>- Data included in the financial models of the alternatives presented.<br>- Natural gas reserves estimation and business alternatives development.<br>- Net capacity.<br>- Dispatch data and electricity imports from the regional area of | B.2.1<br>B.2.6<br>B.2.7<br>B.2.9<br>E.3.1 – E.3.6 | Data included in the financial models of the alternatives presented.<br>During the validation visit in Argentina, CAPEX explained in detailed the financial models for the different alternatives. Precise information was provided for variables such as investment, operating cost estimations, lifetimes, taxes, generation and electricity prices. The models developed in Excel allowed the validation team to assess the data and formulae used, and the variations in the IRR when CERs were included in the cash flow.<br><br>Natural gas reserves estimation and business alternatives development.<br>During the validation visit in Argentina, CAPEX explained in detail the reserves estimation (proved, probable and possible) and its location. Moreover, CAPEX explained business development alternatives related to the reserves evolution for the CCGT and 105 MW GT with different gas consumptions.<br><br>It was demonstrated that some of the alternatives presented in the PDD, (e.g. open cycle | CL3 is solved.                    |



| Draft report clarifications and corrective action requests by validation team  | Ref. to checklist question in table 2 | Summary of project owner response   | Validation team conclusion |
|--|---------------------------------------|---|----------------------------|
| <p>Patagonia.</p> <ul style="list-style-type: none"> <li>- Efficiency rate of the power plants.</li> <li>- Computational method</li> <li>- Unfired / Fired performance test</li> <li>- Dispatch of the power plant.</li> </ul> |                                       | <p>expansion, 185 MW, unlimited availability of own gas) are not attractive due to the high gas consumption and related risks.</p> <p>NSAI, Netherland, Sewell &amp; Associates, INC, a leading international petroleum consultant company, carried out an estimation of reserves and future revenue to CAPEX S.A. interest in certain oil and gas properties, located in Agua del Cajón and Senillosa concessions. This document was provided also during CAPEX presentation and was analysed by the validation team.</p> <p><b>Net capacity</b><br/>CAPEX has changed the PDD to consider the electricity generation injected to the grid as the net capacity defined as gross capacity less auxiliary consumption of the plant.</p> <p><b>Dispatch data and electricity imports from the regional area of Patagonia.</b><br/>During the interview with CAMMESA, clear explanation concerning the dispatch system in Argentina was provided. Moreover CAPEX demonstrated that they are determining adequately, by means of the official data provided by CAMMESA, the emission factor(s) of specific power plant(s) from which electricity is imported thus including imports from Patagonia regional system if they are dispatched.</p> <p><b>Efficiency rate of the power plants.</b><br/>During the interview with CAMMESA, the efficiency rate test methods were explained.</p> <p><b>Computational method</b><br/>CAPEX demonstrated that It is adequately calculating the <math>EF_{OM}</math> by means of a computational method that uses the dispatch data analysis with variables obtained from CAMMESA official source. The validation team could validate by sampling the processes and calculations of the mentioned computational method.</p> <p><b>Unfired / Fired performance test</b><br/>CAPEX provided a document developed by Black &amp; Veatch International that presents and summarizes the results of the plant performance tests conducted at Agua del Cajón power generation facility for the purposes of demonstrating plant performance for the phase 4 – conversion to combined cycle project. The performance tests performed included, among others, unfired performance guarantee test, fired performance guarantee test, combustion turbine backpressure test and reliability test.</p> |                            |

| Draft report clarifications and corrective action requests by validation team  | Ref. to checklist question in table 2                            | Summary of project owner response  | Validation team conclusion |
|--|--|--|----------------------------|
|  |  | Dispatch of the power plant.<br>With the use of CAMMESA statistics, dispatch of Agua del Cajón was demonstrated that is well placed among the first power plants in the merit order from the moment the power plant became operational. This information was also supported by CAMMESA during the interview.   |                            |
| CAR2<br>On-site fossil fuel consumption to supplement waste heat in operating steam turbine and related assumptions have to be clarified.<br>Under the assumption that no supplementary fuel is needed to operate the steam turbine, Table D.2.1.1 and D.2.1.3 do not include the necessary parameters according to methodology ACM0007. | D.2.1 – D.2.5<br>D.4.1 – D.4.3<br>E.1.1 – E.1.5<br>E.3.1 – E.3.6 | CAPEX initially explained that the on-site fuel consumption to supply additional heat by using additional burners was compensated by the emissions of the less efficient 105 MW GT of the baseline scenario. Nevertheless this conservative approach presents some uncertainties mainly related to operation situations where it is difficult (or impossible) to distinguish electricity generation produced by the steam turbine related to the exhausting gases or the supplementary fire.<br>CAPEX has changed the PDD to follow strictly the steps proposed in ACM0007. Instead of considering the project generation as the generation due to the use of waste heat, they have considered all the power plant operating in combined cycle mode, reflecting the emissions from on-site fossil fuel consumption to supplement extra heat, the emissions from the existing six gas turbines and all the power output of the steam turbine.<br>CAPEX has changed the monitoring of emissions of the project and the monitoring of the baseline to consider the parameters necessary to perform that calculation according to the methodology. CAPEX is currently measuring almost every parameter needed and the remaining will be measured / calculated. | CAR2 is solved.            |
| CAR3<br>As the increased quantity of natural gas consumed by the project activity can be ignored according to the PDD, it is not address the leakage issue according to methodology ACM0007.   | D.3.1 – D.3.3<br>E.2.1 – E.2.3                                   | During the visit to the power plant in Neuquen, the leakage issue was analysed with the environmental coordinators.<br>CAPEX is continuously measuring parameters such as pipe pressure to avoid gas leakage. CAPEX is already addressing this issue as part of the security management system.<br>Cases of CH <sub>4</sub> leakage in production, transportation and consumption of increased quantity of natural gas were considered and estimated taking into account security valves, flow, pipe diameters, flaring, etc. These estimations resulted negligible and can be ignored. CAPEX has changed the PDD accordingly.   | CAR3 is solved.            |
| CL4<br>The environmental law fulfilment has to be clarified.   | F.1.2  | CAPEX organised interviews with all relevant environmental legislators at request of the validation team.<br>During the interview with ENRE it was confirmed that Agua del Cajón fulfilled all environmental requirements of the host country since the beginning. At present, all environmental auditing managed by ENRE are passed satisfactorily.   | CL4 is solved.             |