

## **CDM VALIDATION REPORT**

**Dubai Carbon Centre of Excellence**

**Dubai Electricity and Water Authority (DEWA)**

### **VALIDATION OF THE PROJECT ACTIVITY:**

**DEWA Chiller Station L**

**AENOR REFERENCE: 2011/064/CDM/64**

**VERSION: 03**

VALIDATION REPORT  
DEWA Chiller Station L

<b>Validation Report:</b>	AENOR Reference n°:		Version of this report:		Date:	
	2011/064/CDM/64		03		14/11/2012	
<b>PDD:</b>	Title:		GSC publication date:		Comments received:	
	DEWA Chiller Station L		12/11/2011		<input type="checkbox"/> Yes* <input checked="" type="checkbox"/> No	
<b>Parties involved:</b>	Host Party:		Other involved Parties:			
	United Arab Emirates					
<b>Project Participant(s):</b>	In host Party:		In other involved Parties:			
	Dubai Carbon Centre of Excellence					
	Dubai Electricity and Water Authority (DEWA)					
<b>Size of the project activity:</b>	<input checked="" type="checkbox"/> Small scale <input type="checkbox"/> Large scale					
<b>Applied methodology/ies:</b>	Title:		Code:		N° version	
	Supply side energy efficiency improvements – generation		AMS-II.B		9.0	
<b>Applied tools:</b>	Title:		Version:			
	Tool to determine the remaining lifetime of equipment		01			
<b>Emission reductions (ER):</b>		GSC PDD:		Final PDD:		
<input checked="" type="checkbox"/> Annual average of the ER (tCO <sub>2</sub> e)		28,163		26,800		
<input type="checkbox"/> Total ER (tCO <sub>2</sub> e)						
<b>Previous versions of this document:</b>			Version:		Date:	
			1		06/08/2012	
			2		11/09/2012	
			3			
			4			
<b>Report prepared by:</b>	Climate Change Unit. AENOR: Marcelino Pellitero and Fernando Segarra					

\* The comments are detailed in Section 4 of this Validation Report

---

VALIDATION REPORT  
DEWA Chiller Station L

---

***Abbreviations***

AMS-II.B	Supply side energy efficiency improvements – generation
CAR	Corrective Action Requested
CDM	Clean Development Mechanism
CEO	Chief Executive Officer
CER	Certified Emission Reductions
CL	Clarification
DECISION 3/CMP.1	Modalities and Procedures for a Clean Development Mechanism as Defined in Article 12 of the Kyoto Protocol
DNA	Designated National Authority
DCCE	Dubai Carbon Centre of Excellence
DEWA	Dubai Electricity and Water Authority
DFO	Distillate Fuel Oil
EB	Executive Board of the CDM of the Kyoto Protocol
EIA	Environmental Impact Assessment
GHG	Greenhouse Gasses
GSC	Global Stakeholder Consultation
GT	Gas Turbine
GJ	Gigajoule
IG	Imperial Gallon
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of approval
MP	Monitoring Plan
MWh	Megawatt Hour
NG	Natural Gas

VALIDATION REPORT  
DEWA Chiller Station L

Nm <sup>3</sup>	Normal Cubic Meter
ODA	Official Development Assistance
PDD	Project Design Document
PP	Project Participant
tCO <sub>2e</sub>	Carbon Dioxide Equivalent Tonnes
TA	Technical area
TESTIAC	Thermal Energy Storage and Turbine Inlet Air Cooling
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UAE	United Arab Emirates
VVM	Validation and Verification Manual
WWF	World Wild Fund for Nature

**Table .1 Abbreviations**

<b><i>Table of Contents</i></b>	<b><i>Page</i></b>
1 INTRODUCTION.....	7
1.1 Objective	7
1.2 Scope	7
2 METHODOLOGY .....	9
2.1 Appointment of team members and technical reviewers	10
2.2 Document review	11
2.3 Follow-up actions	11
2.4 Findings	13
2.5 Internal Quality Control	13
3 VALIDATION FINDINGS .....	14
3.1 Approval	14
3.2 Participation	14
3.3 Project Design Document	14
3.4 Project description	14
3.5 Baseline methodology	16
3.5.1 Applicability of the selected methodology to the project activity	16
3.5.2 Project boundary	17
3.5.3 Baseline identification	18
3.5.4 Algorithms and/or formulae used to determine emission reductions	18
3.6 Additionality	24
3.6.1 Starting date of the project activity and prior consideration of the CDM	24
3.6.2 Analysis of the additionality	26
3.7 Monitoring Plan	26
3.7.1 Compliance of the monitoring plan with the approved methodology	26
3.7.2 Implementation of the Monitoring Plan	28
3.8 Comments by Local Stakeholders	28
3.9 Environmental Impacts	28
4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS.....	29
5 VALIDATION OPINION.....	30

---

VALIDATION REPORT  
DEWA Chiller Station L

---

6	CORRECTIVE ACTION REQUESTS, CLARIFICATIONS AND FORWARD ACTION REQUESTS.....	31
7	REFERENCES .....	73
	ANNEX 1: CDM VALIDATION PROTOCOL .....	76
	ANNEX 2: CERTIFICATES OF QUALIFICATION VALIDATION AND TECHNICAL REVIEW TEAM .....	117

## **1 INTRODUCTION**

### **1.1 Objective**

This validation concerns a project implemented by the project participants (PP), in Dubai (UAE) to reduce emissions of CO<sub>2</sub> by improving the efficiency of the three gas turbines (GTs) L 71 – L 73 installed at Station L Phase 1 of Dubai Electricity and Water Authority (DEWA) by implementing an inlet air chilling system called Thermal Energy Storage and Turbine Inlet Air Cooling (TESTIAC). It is estimated that this measure will result in an increase of average historic efficiencies of the gas turbines by approximately 2%. The project activity reduces GHG emissions because less fossil fuel input is required to generate the same output of electricity during operation of the TESTIAC system.

The objectives of the validation exercise are to confirm that the project meets the necessary CDM criteria, follows the approved methodology AMS-II.B, version 9.0 [1], and that the proposals presented by the PPs in the PDD will lead to a realistic determination of the emissions reductions.

Dubai Carbon Centre of Excellence (DCCE) has commissioned AENOR to validate this project activity. The purpose of such a validation is to have an independent, third party assess the project design. In particular, the project's baseline, the monitoring plan (MP), and the project's compliance with relevant UNFCCC and host country issues and criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is a requirement for all CDM projects and is considered essential in providing quality assurance for the project.

UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities as agreed to in the Bonn Agreement and the Marrakech Accords.

### **1.2 Scope**

The scope of the validation is to assess all aspects of GHG reduction involved in the project, including the project design, the baseline, the determination of the emission factor to calculate the baseline emissions, and the procedures proposed for monitoring the emission reductions in the future.

The following documents were reviewed as part of the scope of the activity:

- PDD [2/3/42], including baseline study and monitoring plan
- Approved Methodology: AMS-II.B, version 9.0
- Tool to determine the remaining lifetime of equipment, version 01 [4]
- Decision 3/CMP.1 and relevant decisions and guidelines from the EB.
- Guidelines on the demonstration of additionality of small-scale project activities, version 09.0 [5].
- CDM Validation and Verification Manual, version 01.2 [6]
- Letter of Approval from the DNA of UAE [7]

---

VALIDATION REPORT  
DEWA Chiller Station L

---

- Associated documentation (environmental requirements, barrier analysis, etc)

The validation scope is defined as an independent and objective review of the PDD, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. AENOR, based on the Specific Instruction for the Processing and Conducting of Validation, Registration, Verification and Certification of Kyoto Protocol CDM Project Activities (IE-DTC-039) [8], has used a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consultancy services to the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the PDD.



## 2 METHODOLOGY

The project assessment aims at being a risk based approach and is based on the methodology developed in the Validation and Verification Manual, version 01.2 /6/, an initiative of Designated and Applicant Entities, which aims to harmonize the approach and quality of all such assessments.

The validation of the project started in November 2011 and concluded in November 2012. The validation was performed in several phases, starting with a desk review of the PDD against the approved methodology and CDM and other relevant criteria. The desk review was followed by a site visit to the project site and main stakeholders in Dubai, UAE.

In order to ensure transparency, a validation protocol was customized for the project. The protocol shows, in a transparent manner, criteria (requirements), means of verification and the results derived from validating the identified criteria.

The validation protocol serves the following purposes:

- It organizes, provides details and clarifies the requirements a CDM project is expected to meet.
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The sequence of the validation is given in the table below:

Topic	Date
Submission of PDD "DEWA Chiller Station L" for global stakeholder consultation process	12/11/2011
On-site visit	13-15/12/2011
Validation Protocol - Version 01.	18/01/2012
Final Validation Report	14/11/2012

***Table 2 Sequence of the main validation activities***

## 2.1 Appointment of team members and technical reviewers

The list of involved personnel and the qualification status are summarized in the table below:

Name	Qualification	
	Position in the team	Technical areas
Marcelino Pellitero Martinez	Chief Validator	--
Fernando Segarra Orero	Validator	TA 1.1
Luis Robles Olmos	Technical Reviewer	TA 1.1
M <sup>a</sup> Carmen Gonzalez Galan	Technical Reviewer	TA 1.1

**Table 3 List of the personnel involved**

Technical areas (TA) mentioned above correspond to the following:

TA code	Technical area
TA 1.1	Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX);
TA 1.2	Energy generation from renewable energy sources.
TA 2.1	Electricity distribution;
TA 2.2	Heat distribution
TA 3.1	Energy demand
TA 4. 1	Cement sector (COMPLEX);
TA 4.2	Aluminium (COMPLEX);
TA 4.3	Iron and steel (COMPLEX);
TA 4.4	Refinery (COMPLEX)
TA 5.1	Chemical process industries (COMPLEX).
TA 6.1	Construction.
TA 7.1	Transport.
TA 8.1	Mining and mineral processes, excluding those included in TA 8.2 below;
TA 8.2	Oil and gas industry, coalmine methane recovery and use (COMPLEX).

TA code	Technical area
TA 9.1	Metal production.
TA 10.1	Mining and mineral processes, excluding those included in TA 10.2 below;
TA 10.2	Oil and gas industry, coalmine methane recovery and use (COMPLEX).
TA 11.1	Chemical process industries (COMPLEX);
TA 11.2	GHG capture and destruction.
TA 12.1	Chemical process industries (COMPLEX).
TA 13.1	Waste handling and disposal;
TA 13.2	Animal waste management.
TA 14.1	Forestry
TA 15.1	Agriculture
TA 15.2	Animal waste management.

## 2.2 Document review

The Project Design Document submitted by the PP was reviewed against the approved methodology and against CDM and other relevant criteria. Additional background documents related to the project design, baseline and barrier analysis were also made available before and during the on-site visit in Dubai, UAE.

To address the corrective actions and clarification requests that arose from the desk review and on-site visit, the consultants revised the initial project design document submitted and developed the final PDD.

## 2.3 Follow-up actions

The AENOR validation team composed by Marcelino Pellitero Martínez and Fernando Segarra conducted interviews with project developers and main stakeholders in Dubai to confirm selected information and to resolve issues identified in the document review.

On 13-15 December 2011 the AENOR validation team visited the project site. During the visit, representatives from Dubai project participants, in addition to relevant local stakeholders such as local authorities and local inhabitants, affected by the project were interviewed

VALIDATION REPORT  
DEWA Chiller Station L

Interviewed organization Person/Position	Interview topics
<p>Ivanno Iannelli. CEO at DCCE</p> <p>Sebastien Aguilar. Technical support officer at DCCE.</p> <p>Alexandra Soezer. Carbon Technical Advisor at UNDP.</p> <p>Robert Kelly. Regional Technical Advisor – Climate Change Mitigation at UNDP.</p> <p>Clemens Plöchl. Managing Partner at Energy Changes.</p> <p>Wolfgang Wetzler. Project Development at Energy Changes.</p> <p>Laura Martonova. Project Coordinator at Energy Changes.</p> <p>Tatiana Antonelly. Managing Director at Goumbook.</p> <p>Nebojsa Simic. Senior Manager-Commissioning at DEWA.</p> <p>Mohammed Abdulkareem Al Shamsi. Senior Analyst at DEWA.</p> <p>Robin Mills. Head of Consulting at Manaar.</p> <p>Y.J. Merchant. Advisor-Operation at DEWA.</p> <p>Tanzeed Alam. Policy Director at Emirates Wildlife Society - WWF.</p> <p>Dr. El Waleed El Malik. Environment Agency - Abu Dhabi</p> <p>Albertus Kleinveld. Director of Special Projects at DEWA.</p>	<p>Project design.</p> <p>System management.</p> <p>Compliance with environmental law.</p> <p>Permits and authorizations applicable to the project.</p> <p>Additionality assessment.</p> <p>Ex-ante baseline determination.</p> <p>Consultation with municipal's authorities, land other stakeholders.</p> <p>Opinion about the project.</p> <p>Knowledge of the environmental impacts.</p> <p>Benefits for the community.</p> <p>Project activity compliance with local policies and legislation.</p>

**Table 4 Interview topics**

## **2.4 Findings**

As an outcome of the validation process, the team can raise different types of findings according to the CDM Validation and Verification Manual.

A Clarification Request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met; or

Where a non-conformance arises the validation team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- b) The CDM requirements have not been met;
- c) There is a risk that emission reductions cannot be monitored or calculated.

Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

A Forward Action Request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

The project participants were requested to address all validation findings and ultimately provided the validation team with sufficient evidence to determine that the applicable CDM requirements have been met. The project participant modified the initial PDD to resolve the validation team concerns and resubmitted a final version of the PDD. AENOR has prepared this report based on the final PDD.

All the validation findings are summarized in section 3 below and documented in more detail in section 6 and in the validation protocol included in Annex 1.

## **2.5 Internal Quality Control**

Following the completion of the assessment process by the validation team, all documentation undergoes an internal quality control through a technical review before submission to the CDM-EB. The technical reviewer is a qualified member of AENOR, independent from the team that carried out the validation of the project activity. The technical reviewer or the team appointed for the technical review are qualified in the technical area(s) and sectoral scope(s) of the project activity.

### **3 VALIDATION FINDINGS**

#### **3.1 Approval**

Regarding the approval requirements, Letter of Approval (LoA) was requested from the PP along with the correction of the information in Annex 1 of the first PDD. Therefore, Annex 1 in final PDD is consistent with the information in the rest of the sections.

The Letter of Approval from the United Arab Emirates (UAE) DNA [7] has been provided to the validation team directly by the project participants. The LoA was issued on 20 February 2012 by Environment Agency - Abu Dhabi. AENOR confirms that the LoA states the following:

- UAE is a Party of the Kyoto Protocol.
- UAE voluntarily participates in the CDM and confirms that “DEWA Chiller Station L” contributes to UAE’s sustainable development
- The LoA refers to the precise proposed CDM project activity title in the PDD being submitted for registration.

AENOR confirms that the LoA from UAE has been issued by the respective party’s designated national authority and does not doubt of its authenticity; hence AENOR confirms that the LoA is in compliance with paragraphs 45-48 of the VVM v.1.2.

The validation did not reveal any information that indicates that the project can be seen as a diversion of ODA funding towards UAE.

#### **3.2 Participation**

Only one Party, the host, UAE, is involved in the project activity. UAE ratified the Kyoto Protocol on 26 January 2005 and has appointed a DNA.

All project participants have been listed in section A.3 of the final PDD. This information is consistent with the information provided in its Annex 1.

AENOR confirms that no entities other than that approved as project participant are included in other sections of the latest version of the PDD [3].

#### **3.3 Project Design Document**

Due to the clarifications and corrective actions requested during the validation process, the project participants made a final version of the PDD dated 14 November 2012, which includes corrections or clarifications to all issues raised.

The PDD is in compliance with relevant forms and guidance stated by the CDM documentation.

#### **3.4 Project description**

**Title of the project activity:** DEWA Chiller Station L

---

VALIDATION REPORT  
DEWA Chiller Station L

---

Project participants: Dubai Carbon Centre of Excellence and Dubai Electricity and Water Authority.

**Host Party:** UAE.

The location of the project activity is provided in Section A.4.1 of the PDD. The project is located in Jebel Ali area in Jumeirah, Emirate of Dubai, UAE. The coordinates of the project have been clearly detailed in decimal format in the final PDD to be consistent with the CDM requirements and with the evidence provided during the validation process, they are as follows: 25.05208411 North and 55.11129545 East.

The project is a small scale supply side energy efficiency improvement project activity of three Gas Turbines (GTs), L 71 to L 73, of 255.6 MW installed capacity each /11/12/, at Station L Phase 1 of DEWA by implementing an inlet air chilling system called TESTIAC. According to the technology provider, it is estimated that the implementation of TESTIAC system will result in a 2% increase of average historic efficiencies of the GTs.

In the PDD section A.2 and A.4.2, technical aspects of the proposed project activity are clearly and transparently described. The description is found to be in accordance with the latest PDD guidelines and found to be complete and accurate. It is confirmed during the site visit that the description provided is correct and is in line with the actual conditions on the project site.

The project start date is properly defined as 29 April 2010 which is the date on which the Letter of Acceptance of order for the equipment was issued /9/. This is in line with EB66, Annex 63 /10/ as this is the first financial commitment to be made by the project participants for implementation of the project activity.

The operational lifetime of the project has been determined as 30 years, in accordance with the manufacturer's design specifications /11/ while the remaining lifetime of the GTs has been determined considering the option a) of the Tool to determine the remaining lifetime of equipment version 01 /4/. AENOR has verified that technical lifetime of the GTs according to the manufacturer's specification is 30 years and their respective commissioning dates /12/ resulting in a remaining lifetime of approximately 25 years for GT L 71 and GT L 72 and 26 years for GT L 73. Therefore, the selected 10 year fixed crediting period does not exceed the calculated average remaining lifetime of baseline equipment, thus accepted by the validation team of AENOR.

The start date of the crediting period has been determined as 1 January 2013 or registration date, whichever is later

The total emission reductions from the project are estimated to be 268,000 tCO<sub>2e</sub> over the 10-year crediting period, with an annual average of 26,800 tCO<sub>2e</sub>. The forecasted emission reduction has been verified from the ER calculations spreadsheet /13/ and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

The purpose of the project activity, type of technology used and the contribution of the project to sustainable development are described in the PDD. The information provides the reader with a clear

---

 VALIDATION REPORT  
 DEWA Chiller Station L
 

---

understanding of the proposed CDM project activity, AENOR hereby confirms that the project description in the final PDD is in all respects accurate and complete with regard to CDM requirements and the data sources provided by the PP.

### 3.5 Baseline methodology

#### 3.5.1 Applicability of the selected methodology to the project activity

The PDD describes the baseline methodology, which is in conformance with the latest version of the approved small scale baseline methodology “Supply side energy efficiency improvements – generation” (AMS. II.B version 9.0), available on UNFCCC web site. The applied methodology is valid from 10 August 2007 onwards.

In addition, section B.2 of the final PDD identifies the applicability conditions of the approved methodology and states how the project activity fulfils each of these conditions. The applicability conditions from the methodology have been checked by the validation team and are considered correct. The assessment was carried out for each applicability criteria according to the following:

No.	Applicability Conditions of AMS II.B version 9.0	Assessment by AENOR
1	This category comprises technologies or measures to improve efficiency of fossil fuel generating units that supply an electricity or thermal system by reducing energy or fuel consumption by up to the equivalent of 60 GWh <sub>e</sub> per year. Examples include efficiency improvements at power stations and district heating plants and co-generation. The technologies or measures may be applied to existing stations or be part of a new facility. A total saving of 60 GWh <sub>e</sub> is equivalent to maximal saving of 180 GWh <sub>th</sub> in the fuel input to the generation unit.	<p>During the onsite assessment it was confirmed that the project activity involves the installation of the implementation of a TESTIAC system to improve the efficiency of three gas turbines (GTs) installed at Station L Phase 1 of Dubai Electricity and Water Authority.</p> <p>Based on the historic average load factor of 54.3% of the turbines [13], AENOR has validated that the proposed project activity will result in reductions of fuel consumption of approximately 136.05 GWh<sub>th</sub> per year [13], hence below the 180 GWh<sub>th</sub> maximal saving established in the methodology.</p> <p>The load factor of 54.3% for the set of 3 turbines which is within the range (53%-57%) provided as per the regional grid operator for combined cycle GTs in the country [38], thus considered reasonable</p>



VALIDATION REPORT  
DEWA Chiller Station L

No.	Applicability Conditions of AMS II.B version 9.0	Assessment by AENOR
		<p>In addition, the validation team of AENOR has checked that an increment of 20% in the load factor or an average load factor of 65% is needed in order to surpass the maximal saving established in the methodology, which is far beyond the operational range of similar power plants in the country.</p> <p>Therefore AENOR considers that the project activity meets the applicability criterion.</p>

An explanation of the accomplishment of the project activity with latest Guidelines on assessment of debundling for SSC Project activities /14/ is shown in the PDD. According to these explanations, the project activity is not deemed to be a debundled component of a large project activity. AENOR has confirmed during the interviews with PP, consultants and the CDM database projects at United Nations' website that there are not registered small scale projects with the same project participants, in the same project category and technology/measure, registered within the two previous years and whose project boundaries are within 1 km of the proposed project boundary at the closest point. Thus, AENOR considers that the proposed project activity is not a debundled component of a large scale project activity.

AENOR has verified by desk review, on-site visit and interviews that the conditions required by the methodology are met. Thus, the PDD clearly identifies that the project activity fulfils the conditions of the applicable methodology.

In conclusion, based on the site visit, interviews with the PP and stakeholders, and relevant documents provided and mentioned above, AENOR confirms the applicability conditions of the selected methodology to the project activity.

The project activity is not expected to result in emissions other than those allowed by the methodology, and there are no greenhouse gas emissions occurring within the proposed CDM project activity boundary as a result of the implementation of the proposed CDM project activity which are expected to contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.

### 3.5.2 Project boundary

According to AMS.II.B, version 9.0 of the project boundary is the physical, geographical site of the fuel fired power station unit affected by the efficiency measures. Thus the PPs defined appropriately the project boundary as the Station L Phase 1 plant including 3 gas turbines L71-L73 manufactured by GE Power

Systems, model PG9351 (FA+e) with serial numbers GEK 110689 (298398 to 298400), located at Jebel Ali, Dubai, UAE.

The validation team states that the identified boundary is correctly justified by the project proponent in the PDD, and meets the requirements of the selected baseline methodology.

### **3.5.3 Baseline identification**

According to AMS.II.B, version 9.0 of the baseline is the technical losses of energy within the project boundary. In the case of retrofit measures the energy baseline is calculated as the monitored performance of the existing generating unit.

The proposed project activity is a retrofit measure, so the energy baseline is calculated as the monitored performance of the 3 existing gas turbines L71-L73 in Station L: model PG9351 (FA+e), serial numbers GEK 110689 (298398 to 298400).

It is the opinion of AENOR, that all documentation used is relevant for establishing the baseline scenario and is correctly quoted and interpreted in the final PDD. The assumptions and data used in the identification of the baseline scenario are appropriately justified, supported by evidence and can be deemed reasonable.

The approved baseline methodology has been correctly applied to identify the most reasonable baseline scenario and the identified baseline scenario reasonably represents what would occur in the absence of the proposed CDM project activity.

### **3.5.4 Algorithms and/or formulae used to determine emission reductions**

The calculations and formulae as addressed in the approved baseline and monitoring methodology AMS.II.B version 9.0 have been applied. All aspects related to the direct and indirect GHG emissions as relevant to the project activity have been addressed and are presented in a transparent manner, in line with the approved methodology.

The following parameters are determined ex-ante thus not monitored:

VALIDATION REPORT  
DEWA Chiller Station L

Table 5: Parameters determined ex-ante

Parameter / data	Value applied	Source of data used / comments
EG <sub>m,h</sub>	<u>For GT L71</u> Year 2008: 1,144,412 MWh Year 2009: 1,228,708 MWh Year 2010: 1,172,679 MWh <u>For GT L72</u> Year 2008: 1,407,091 MWh Year 2009: 1,186,193 MWh Year 2010: 1,247,474 MWh <u>For GT L73</u> Year 2008: 1,179,853 MWh Year 2009: 1,256,233 MWh Year 2010: 1,123,850 MWh	Data of the electricity generation in each of the three GTs L71-L73 for the three most recent historic years 2008-2010 /16/.  The values have been validated and found to be correct.
FC <sub>m,NG,h</sub>	<u>For GT L71</u> Year 2008: 360,977,142 Nm <sup>3</sup> Year 2009: 381,155,447 Nm <sup>3</sup> Year 2010: 375,712,369 Nm <sup>3</sup> <u>For GT L72</u> Year 2008: 456,092,770 Nm <sup>3</sup> Year 2009: 390,438,691 Nm <sup>3</sup> Year 2010: 411,700,586 Nm <sup>3</sup> <u>For GT L73</u> Year 2008: 384,346,421 Nm <sup>3</sup> Year 2009: 413,380,953 Nm <sup>3</sup> Year 2010: 375,597,289 Nm <sup>3</sup>	Data of the natural gas consumption in each of the three GTs L71-L73 for the three most recent historic years 2008-2010 /16/.  The values have been validated and found to be correct.

VALIDATION REPORT  
DEWA Chiller Station L

Parameter / data	Value applied	Source of data used / comments
$FC_{m,DF0,h}$	<p><u>For GT L71</u></p> <p>Year 2008: 63,246 IG</p> <p>Year 2009: 39,405 IG</p> <p>Year 2010: 78,942 IG</p> <p><u>For GT L72</u></p> <p>Year 2008: 313,169 IG</p> <p>Year 2009: 52,349 IG</p> <p>Year 2010: 18,287 IG</p> <p><u>For GT L73</u></p> <p>Year 2008: 426,196 IG</p> <p>Year 2009: 171,400 IG</p> <p>Year 2010: 2,253 IG</p>	<p>Data of the distillate fuel oil consumption in each of the three GTs L71-L73 for the three most recent historic years 2008-2010 /16/.</p> <p>The values have been validated and found to be correct.</p>
$NCV_{NG,h}$	<p>Year 2008: 0.034 GJ/Nm<sup>3</sup></p> <p>Year 2009: 0.034 GJ/Nm<sup>3</sup></p> <p>Year 2010: 0.033 GJ/Nm<sup>3</sup></p>	<p>Net Calorific value of natural gas for the three most recent historic years 2008-2010 provided by the fuel supplier /17/.</p> <p>The values have been validated and found to be correct.</p>
$NCV_{DF0,h}$	<p>Year 2008: 0.164 GJ/IG</p> <p>Year 2009: 0.163 GJ/IG</p> <p>Year 2010: 0.163 GJ/IG</p>	<p>Net Calorific value of distillate fuel oil for the three most recent historic years 2008-2010 provided by the fuel supplier /18/.</p> <p>The values have been validated and found to be correct.</p>

## Baseline Emissions

Baseline Emissions are calculated as:

$$BE_y = \sum_m (EG_{PJ,m,y} - \frac{EC_{PJ,TESTIAC,y}}{m=3}) \times EF_{BL,m,CO2}$$

Where:

$BE_y$  Baseline Emissions in year y (tCO<sub>2</sub>)

---

VALIDATION REPORT  
DEWA Chiller Station L

---

$EG_{PJ,m,y}$  Quantity of electricity generated in each of the three GTs m L71-L73 in year y (MWh)

$EF_{BL,m,CO_2}$  Baseline Emission Factor for each of the three GTs m L71-L73 (tCO<sub>2</sub>/MWh)

$EC_{PJ,TESTIAC,y}$  Quantity of electricity consumed by the TESTIAC system in year y MWh. For ex-ante estimations a total value of 27,221 MWh (9,074 MWh for each GT) is used in accordance with the parasitic load estimated by TESTIAC manufacturer's specifications [19].

m Gas turbines GTs L71-L73

Above parameter  $EG_{PJ,m,y}$  refers to total electricity generated by the turbines. By definition this parameter also includes the amount of electricity that will be consumed by the TESTIAC system (parasitic load) once in operation. That means that, both project and baseline emissions, as monitored in the proposed project activity would include the emissions associated to the TESTIAC system. Therefore instead of adding TESTIAC related emissions again to project emissions (which would basically mean that they are counted twice), they have been subtracted from the baseline emissions by the PPs, which is deemed appropriated and conservative, hence accepted by the validation team of AENOR.

The  $EF_{BL,m,CO_2}$  is calculated as follows:

$$EF_{BL,m,CO_2} = \frac{\sum_i \sum_h \frac{FC_{m,i,h} \times NCV_{i,h}}{EG_{m,h}} \times EF_{NG,CO_2,y}}{h = 3}$$

Where:

$FC_{m,i,h}$  Quantity of fuels i (NG and DFO) combusted in each of the three GTs m L71-L73 in any of the three historic years 2008-2010 (Nm<sup>3</sup> and IG)

$NCV_{i,h}$  Net calorific value of fuels i (NG and IG) in any of the three historic years 2008-2010 h (G)/Nm<sup>3</sup> and G)/IG)

$EF_{NG,CO_2,y}$  CO<sub>2</sub> emission coefficient of natural gas (tCO<sub>2</sub>/G)

$EG_{m,h}$  Electricity generation in each of the three GTs m L71-L73 in any of the three historic years 2008-2010 (MWh)

h Three most recent historic years before implementation of the TESTIAC system 2008-2010

For the calculation of  $EF_{BL,m,CO_2}$  only the CO<sub>2</sub> emission factor of natural gas  $EF_{NG,CO_2,y}$  is considered which is the lower emission factor of the two fuels, natural gas and distillate fuel oil, used in the gas turbines and is therefore conservative and in line with clarification AM\_CLA\_0173 [20], hence accepted by the validation team of AENOR

## VALIDATION REPORT DEWA Chiller Station L

Therefore the baseline emissions are calculated as follows:

$$BE_y = (1,181,933\text{MWh} - 9,074\text{MWh}) \times \frac{0.583\text{tCO}_2}{\text{MWh}} + (1,280,253\text{MWh} - 9,074\text{MWh}) \times \frac{0.606\text{tCO}_2}{\text{MWh}} + (1,186,645\text{MWh} - 9,074\text{MWh}) \times \frac{0.611\text{tCO}_2}{\text{MWh}} = 2,172,702 \text{ tCO}_2$$

### Project Emissions

Project emissions are calculated by summing up the electricity generated in each of the three gas turbines (GTs) L71-L73  $EG_{PJ,m,y}$  multiplied by a project emission factor ( $EF_{PJ,m,CO_2}$ ) as follows:

$$PE_y = \sum_m EG_{PJ,m,y} \times EF_{PJ,m,CO_2}$$

Where:

$PE_y$  Project Emissions in year y (tCO<sub>2</sub>)

$EG_{PJ,m,y}$  Quantity of electricity generated in each of the three GTs m L71-L73 in year y (MWh)

$EF_{PJ,m,CO_2}$  Project Emission Factor for each of the three GTs m L71-L73 (tCO<sub>2</sub>/MWh).

The  $EF_{PJ,m,CO_2}$  is calculated as follows:

$$EF_{PJ,m,CO_2} = \left( \sum_i \frac{FC_{m,i,y} \times NCV_{i,y}}{EG_{PJ,m,y}} \right) \times EF_{NG,CO_2,y}$$

$EG_{PJ,m,y}$  Quantity of electricity generated in each the three GTs m L71-L73 in year y (MWh).

$FC_{m,i,y}$  Quantity of fuels i (natural gas and distillate fuel oil [DFO]) combusted in each of the three GTs L71-L73 in year y (Nm<sup>3</sup> and imperial gallon = IG)

$NCV_{i,y}$  Net calorific value of fuels i (natural gas and distillate fuel oil [DFO]) in year y (GJ)/Nm<sup>3</sup> and GJ/IG)

$EF_{NG,CO_2,y}$  CO<sub>2</sub> emission factor of natural gas (tCO<sub>2</sub>/GJ)

m Gas Turbines GTs L71-L73

For the calculation of  $EF_{PJ,m,CO_2}$  the same CO<sub>2</sub> emission factor used for baseline emissions calculation is considered for project emissions, because emission reductions of the project activity should be limited to the extent of the efficiency improvement through the project activity and no emission reductions should be claimed due to differences in fossil fuel emissions and change of fuel consumption patterns which is also in line with clarification AM\_CLA\_0173 /20/, hence accepted by the validation team of AENOR.

---

VALIDATION REPORT  
DEWA Chiller Station L

---

Even if there are two types of fuel combusted in the project scenario (natural gas and DFO), the validation team considers this approach as appropriate since DFO represents, according to the log books reviewed during site visit and the consumption data appearing in the ER calculation spreadsheet /13/, 0.1%-0.2% of the quantity of fuel used in the turbines i.e. DFO is used only as start-up/auxiliary fuel as confirmed by the regional grid operator /38/. In addition, a provision in the monitoring plan states that in case DFO comprises more than 1% <sup>1</sup>of the total fuel input annually, on energy basis, no emissions reductions could be claimed for that period. Therefore, in line with ACM0013 version 5.0.0 /39/, only one emission factor is defined and determined as follows: *"IPCC default values of the fuel type used in the project plant at the lower limit of the uncertainty at a 95% confidence interval as provided in table 1.4 of Chapter1 of Vol. 2 (Energy) of the 2006 IPCC Guidelines on National GHG Inventories. In the case that several fuel types may be used in the project plant according to the technology provider's designs, use the fuel type with the lowest IPCC default value at the lower limit of the uncertainty"* (page 14 of ACM0013 version 5.0.0). The same approach has been taken in the proposed project activity, which is deemed appropriate, thus accepted by the validation team.

Although AM\_CLA\_0173 was provided for methodology ACM0013, the validation team based on its sectoral expertise, considers it applicable to the proposed project activity since ACM0013 allows claiming emission reductions from using more efficient power generation technologies that would otherwise be used in the baseline, while AMS-II.B comprises, as well, technologies or measures to improve the efficiency of fossil fuel generating units.

Regarding CLA SSC\_136 /40/, the validation team of AENOR has validated through on site visit that the project plant has been using only natural gas as main fuel in the power plant. In addition to this main fossil fuel category, small amounts of DFO are only used for start up or auxiliary purposes in very minor quantities (historic actual values validated by AENOR in the project power plants are between 0.1%-0.2% significantly below the threshold of 3% set out for example in ACM0013 or the 1% set out in AM0029). This has also been confirmed with the operator of the grid as common practice in the sector /38/, and therefore no change in the fuel mix ratio in the project scenario as compared to the historical ratio is foreseen. In addition, since only natural gas emission factor is consider in Baseline Emissions and Project Emissions calculations, an unlike change in the fuel mix ratio would not contribute to the actual emission reduction and in case start up or auxiliary fuel reaches 1% of annual total fuel input no emissions reductions could be claimed for that period i.e. emission reductions of the project activity are limited to the extent of the efficiency improvement through the project activity and no emission reductions will be claimed due to differences in fossil fuel emissions and change of fuel consumption patterns.

Therefore the project emissions are calculated as follows:

---

<sup>1</sup> 1% threshold is deemed appropriate and conservative, since e.g. ACM0013 establishes a 3% threshold and in line with the threshold of 1% established in AM0029 /41/ to characterize small amounts of start-up or auxiliary fuels.

$$PE_y = \left(1,181,933 \text{ MWh} \times \left(\frac{1}{0.342}\right) \times \frac{0.0543 \text{ tCO}_2}{\text{GJ}} \times \frac{3.6 \text{ GJ}}{\text{MWh}}\right) + \left(1,280,253 \text{ MWh} \times \left(\frac{1}{0.329}\right) \times \frac{0.0543 \text{ tCO}_2}{\text{GJ}} \times 3.6 \text{ GJ/MWh} + (1,186,645 \text{ MWh} \times 10.327 \times 0.0543 \text{ tCO}_2 \text{ GJ} \times 3.6 \text{ GJ/MWh})\right) = 2,145,902 \text{ tCO}_2$$

### Leakage Emissions

Leakage Emissions on account of the project activity are considered as zero since the energy efficiency technology is not equipment transferred from another activity in accordance with the applied methodology AMS-II.B. This has been verified by the AENOR validation team from the Letter of Acceptance of order for the equipment /9/ and interviews with project participants.

### Emission Reductions

The emission reductions generated by the Project were calculated in accordance with the baseline methodology AMS-II.B version 9.0 as follows:

$$ER_y = BE_y - PE_y - LE_y = 2,172,702 \text{ tCO}_2 - 2,145,902 \text{ tCO}_2 - 0 \text{ tCO}_2 = 26,800 \text{ tCO}_2$$

Due to the changes in the emissions reductions calculations and the PDD due to the CARs and CLs raised by the validation team, the amount of emissions reductions claimed in the final PDD is lower than those claimed in the PDD published for GSC (28,163 tCO<sub>2</sub>). AENOR deems this a reasonable and conservative estimation using the assumptions given by the project, based on evidence provided and applicable methodology and tools.

AENOR confirms that all assumptions and data used by the PPs, including their references and sources, are listed in the PDD. Furthermore, all documentation used by project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD and all values used in the PDD are considered reasonable in the context of the proposed CDM project activity.

The baseline methodology and the tools have been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions. The data sources are referenced. The applied values have been crosschecked by AENOR validation team and found to be complete, plausible and conservative. Details of the calculations are presented in ER calculations spreadsheet /11/. Calculation input values and formulae have been verified for completeness, correctness and consistency.

## 3.6 Additionality

### 3.6.1 Starting date of the project activity and prior consideration of the CDM

It was addressed the 29 April 2010 as the start date of the project activity which represents the date on which the Letter of Acceptance of order for the equipment was issued.

The PP has provided to AENOR the timeline of the project activity and the evidence to support it. The main milestones of the project are shown below:



---

VALIDATION REPORT  
DEWA Chiller Station L

---

Date	Milestone
29 April 2010	Letter of Acceptance of order for the equipment (Starting date)
27 May 2010	Project activity announced its Prior CDM consideration of the CDM to UNFCCC secretariat /21/
29 August 2010	Start of civil works /22/
3 October 2010	Project activity announced its Prior CDM consideration of the CDM to UAE DNA /23/
12/11/2011 to 11/12/2011	Public stakeholder consultation of PDD "DEWA Chiller Station L" /24/
29 November 2011	Take over of TESTIAC system /25/
20 February 2012	Issuance of UAE's LoA
1 January 2013	Starting date of the first of Crediting Period

In the opinion of the AENOR validation team, this selected starting date is in line with EB66, Annex 63 as this will be the first financial commitment made by the project participants for implementation of the project activity.

Regarding the prior consideration of the CDM and taking into account the Guidance on the demonstration and assessment of prior consideration of the CDM version 4 /26/, as the project starting date is after 2 August 2008 and the PDD has been submitted for global stakeholder consultation on 12 November 2011, i.e., after the project starting date, the PPs have informed to the Host Party DNA (UAE) and UNFCCC in writing of the commencement of the project activity and of their intention to seek CDM status.

PPs have provided to the validation team the notification letter to the UAE DNA on 3 October 2010. In addition, AENOR has ensured that notification to the UNFCCC secretariat has been provided checking the publicly available list in the UNFCCC web page. A notification was provided on 27 May 2010.

Therefore, both UAE DNA and UNFCCC notifications have been provided within six months of the project activity start date in compliance with the Guidelines on the demonstration and assessment of prior consideration of the CDM.

All evidence provided to the validation team are credible and reliable, hence in opinion of AENOR validation team the CDM incentive was seriously considered in the decision to implement the project activity.

### **3.6.2 Analysis of the additionality**

The additionality of DEWA Chiller Station L activity is demonstrated as required by the criteria outlined in the Guidelines on the demonstration of additionality of small-scale project activities, version 09.0 /5/ through demonstrating the existence of prevailing practice barriers. A detailed analysis of additionality is presented in section B.5 of the PDD.

While the continuation of current activities does not face any barriers, the proposed project activity faces **prevailing practice barriers**. AENOR assessment of the presented barriers is as follows:

The existence of the prevailing practice barriers to the project activity was verified by AENOR through the assessment of the letters of interest in sharing the experience acquired by DEWA during the implementation of the project activity, issued by world leading gas turbine manufacturers i.e. General Electric /27/, Siemens /28/ and Pratt & Whitney Power Systems, Inc. /29/ which clearly state that the air intake chilling system for GTs is a first-of-its kind application not only at UAE level but worldwide.

The above mentioned evidences confirm that prevailing practice barriers identified will prevent the implementation of the project activity but not the continuation of the current situation.

Furthermore, the validation team have checked that there are only three registered CDM projects in sectoral scope 1: Energy industries (renewable - / non-renewable sources) in UAE, but none of them is an energy efficiency improvement project:

- Project 2686: Low pressure steam generation by recovering waste heat using Heat Re-claimers at Emirates CMS Power /30/.
- Project 2534: Abu Dhabi solar thermal power project, Masdar /31/.
- Project 2444: ADFEC 10 MW Solar Power Plant /32/.

In summary, it is AENOR's opinion that the additionality of the project is sufficiently demonstrated based on the prevailing practice barriers and thus it is sufficiently demonstrated that the project activity is additional and would not have occurred in the absence of CDM.

## **3.7 Monitoring Plan**

### **3.7.1 Compliance of the monitoring plan with the approved methodology**

The final PDD states, the parameters to be monitored in compliance with the applicable methodology are the following:

**EG<sub>Pj,m,y</sub>** – Quantity of electricity generated in each of the three GTs L71-L73 in year *y*. This parameter is monitored continuously, with hourly recording. The data will be archived electronically and as paper print-outs for 2 years following the end of the crediting period. The metering equipment will be calibrated at least once in three years. The accuracy level is at minimum 0.5s. Measured electricity will be crosschecked by an external CDM consultant to assure data consistency.

**FC<sub>NG,m,y</sub>** – Quantity of natural gas combusted by GT *m* (L71-L73) in year *y*. The monitoring will be continuous, with hourly recording. The data will be archived electronically and as paper print-outs for 2 years following the end of the last crediting period. The metering equipment will be calibrated at least once in three years. The accuracy level is +/-1%. Measured fuel consumption quantities should be cross-checked by an annual energy balance that is based on purchased quantities and stock changes and with purchase invoices to assure data consistency.

**FC<sub>DFO,m,y</sub>** – Quantity of distillate fuel oil combusted by GT *m* (L71-L73) in year *y*. The monitoring will be continuous, with hourly recording. The data will be archived electronically and as paper print-outs for 2 years following the end of the last crediting period. The metering equipment will be calibrated at least once in three years. The accuracy level is +/-1%. Measured fuel consumption quantities should be cross-checked by an annual energy balance that is based on purchased quantities and stock changes and with purchase invoices to assure data consistency. In case DFO comprises more than 1% of the total fuel input annually no emissions reductions can be claimed for that period.

**NCV<sub>NG,y</sub>** – Net calorific value of natural gas in year *y*. The monitoring will be annual. Values will be verified if they are within the uncertainty range of the IPCC default values as provided in Table 1.2, Vol. 2 of the 2006 IPCC Guidelines. If the values fall below this range, additional information from the testing laboratory shall be collected to justify the outcome or additional measurements shall be conducted.

**NCV<sub>DFO,y</sub>** – Net calorific value of distillate fuel oil in year *y*. The monitoring will be annual. Values will be verified if they are within the uncertainty range of the IPCC default values as provided in Table 1.2, Vol. 2 of the 2006 IPCC Guidelines. If the values fall below this range, additional information from the testing laboratory shall be collected to justify the outcome or additional measurements shall be conducted.

**EC<sub>PJ,TESTIAC,y</sub>** – Quantity of electricity consumed by the TESTIAC system in year *y*. The monitoring will be continuous, with hourly recording. The data will be archived electronically and as paper print-outs for 2 years following the end of the last crediting period. The metering equipment will be calibrated at least once in three years. The accuracy level is +/-1%. Measured electricity will be crosschecked by an external CDM consultant to assure data consistency.

**EF<sub>NG,CO2,y</sub>** – Emission factor of fuel type natural gas in year *y*. The monitoring will be annual. Default data from IPCC 2006 Guidelines for National Greenhouse Gas Inventories [15] at the lower limit of the uncertainty at a 95% confidence interval as provided in Table 1.4 of Chapter 1 of Vol. 2 (Energy) is used. There is no country or project specific value available. Any future revision of the IPCC guidelines shall be taken into account.

The parameters for achieving emission reduction calculation by the prescribed equations for baseline emissions, project emissions, leakage and emission reductions have been listed in B.7.1 of the PDD in a complete manner. The survey design, the monitoring frequency, recording frequency and QA/QC procedure have been prescribed for each parameter in compliance with the methodology.

Therefore, in opinion of the AENOR team all necessary parameters required by the selected approved methodology are contained in the monitoring plan. They are clearly described and the means of monitoring described in the plan complies with the requirements of the methodology. Thus, the monitoring plan is in compliance with the applicable methodology.

### **3.7.2 Implementation of the Monitoring Plan**

After the review of evidence provided and the interviews and communication with the PPs, AENOR confirms that monitoring arrangements described in the monitoring plan are feasible within the project design and that the means considered for the implementation, including data management, quality and assurance control procedures, are sufficient to ensure that the emission reductions achieved resulting from the proposed CDM project activity can be reported ex post and verified.

Therefore, in the opinion of AENOR validation team the PPs will be able to implement the monitoring plan.

### **3.8 Comments by Local Stakeholders**

Stakeholders have been directly asked to comment on the project through an open meeting among local stakeholders, project participant and local authorities on 17 May 2011 /33/.

A summary of the comments received and information on how due account was taken of the concerns/comments raised in the above public consultation are included in PDD.

During the on-site visit, the AENOR team held interviews with some of those local stakeholders affected by the project activity in order to learn their opinions about the implementation of the project. By means of the documents reviewed /34/35/ and the interviews performed, AENOR considers that the summary of the comments received during the consultation process, along with the PP responses included in section E.2 of the PDD is complete. Also, the information in section E.3 of the PDD gathers a complete summary of how the comments received from local stakeholders were considered.

AENOR determines that the relevant local stakeholders have been invited. A summary of the comments has been received by the project participants, and these comments have been taken into account.

AENOR states that the local stakeholder consultation is adequate and accurate.

### **3.9 Environmental Impacts**

Since the proposed project activity is an energy efficiency project, the implementation of the project activity will reduce the consumption of fossil fuel. Hence no environmental effects are envisaged. Documentary evidence has been provided /36/37/, which was checked by the assessment team and it was concluded that an EIA is not required for the project activity by Dubai municipality.

## **4 COMMENTS BY PARTIES, STAKEHOLDERS AND NGOS**

According to Decision 3/CMP.1, the validator shall make publicly available the PDD and receive, within 30 days, comments on the validation requirements from parties, stakeholders and UNFCCC accredited NGOs and make them publicly available.

AENOR published the project documents on the CDM website (<http://unfccc.cdm.int>) on 12 November 2011 and invited comments by parties, stakeholders and non-governmental organizations. No comments were received.

## 5 VALIDATION OPINION

AENOR has performed a validation of the DEWA Chiller Station L. The validation process was performed on the basis of all issues and criteria of UNFCCC for CDM projects, the host country criteria and also on the criteria given to provide for consistent project operations, monitoring and reporting.

The validation consisted of the following three phases: i) a desk review of the project design and the baseline and monitoring plan; ii) follow-up interviews with project stakeholders; iii) the resolution of outstanding issues and the issuance of the final validation report and opinion. In the course of the validation process 19 corrective actions and 8 clarifications were raised, all have been successfully closed.

The project participants applied the "Guidelines on the demonstration of additionality of small-scale project activities, version 09.0 and the "Guidance on the demonstration and assessment of prior consideration of the CDM" version 04 to demonstrate the additionality of the project. In line with these tools, the PDD provides a barrier analysis to determine that the project activity itself is not the baseline scenario. The latest version of the approved methodology AMS-II.B and the Tool to determine the remaining lifetime of equipment are also applied.

The prevailing practice barrier analysis demonstrates that the proposed project activity is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The review of the project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews and review of comments by parties and stakeholders have provided AENOR with sufficient evidence to validate the fulfilment of the stated criteria.

The conclusions can be summarised in detail as follows:

- The project is in line with all relevant host country criteria, the DNA of UAE and all relevant UNFCCC requirements for the CDM. The LoA from UAE is dated 20 February 2012.
- The project additionality is sufficiently justified in the PDD.
- The monitoring plan is transparent and adequate.
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so the project activity is likely to achieve the average estimated amount of emission reductions of 26,800 tCO<sub>2e</sub> per year.

In our opinion, the project correctly applies and meets the relevant UNFCCC requirements for the CDM and the relevant host country criteria.

The validation has been performed using a risk-based approach, as described above. The only purpose of this report is its use during the registration process as part of the CDM project cycle. Hence, AENOR cannot be held liable by any party for decisions made or not made based on the validation opinion, which goes beyond the purpose.

14/11/2012



Luis Robles Olmos  
Authorized person

14/11/2012



Marcelino Pellitero Martínez  
Validation Team Leader

VALIDATION REPORT  
DEWA Chiller Station L

## 6 CORRECTIVE ACTION REQUESTS, CLARIFICATIONS AND FORWARD ACTION REQUESTS

PROJECT ACTIVITY	DEWA Chiller Station L		
<b>FINDING</b>	<b>Nº 1</b>		
<b>Classification</b>	<b>CAR</b> <input checked="" type="checkbox"/>	<b>CL</b> <input type="checkbox"/>	<b>FAR</b> <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The Letter of Approval of the project activity shall be provided to the validation team.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i>		
<i>It shall provide and identified the evidences proposed (if applicable)</i>	The <u>Letter of Approval</u> by the host country is submitted to the DOE		
	01Ev-DEWACHillerStL-LoA (LoA of the host country)		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	LoA from UAE has been provided. It is considered that CAR 1 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i>	<i>This section shall be filled by the PP.</i>		
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 2		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Complete contact information of all project participants that are listed in section A.3 shall be provided in Annex 1 of the PDD.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> Contact information of all project participants listed in section A.3 is provided in Version 3 of the PDD		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>			
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Complete contact information of all project participants that are listed in section A.3 has been provided in Annex 1 of the final PDD.  It is considered that CAR 2 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i>	<i>This section shall be filled by the PP.</i>		
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	



VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 3		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The following issues of Section A. 2 of the PDD shall be corrected:</p> <ul style="list-style-type: none"> <li>The audit team could check during on site visit to Station L DEWA that the name of the three gas turbines in PDD is not correct.</li> <li>The operating time of the TESTIAC system is not consistent in all the PDD. In section A.2, it is stated that the operating time of the TESTIAC system is 7 months of the year (between April – October) whereas in the spreadsheet for the ex-ante emissions calculation it is assumed that the operating time is 184 days (corresponding to 6 months).</li> <li>The estimation of the GHG emission reductions shall be stated.</li> </ul>		
<b>PP RESPONSE #1</b>  <i>It shall address the corrective action taken in details</i>	<p><i>This section shall be filled by the PP.</i></p> <ul style="list-style-type: none"> <li>The <u>names of the three gas</u> turbines have been updated in Version 3 of the PDD. Evidence for the correct name (take over certificate of gas turbines) is attached as 02Ev-DEWACHillerStL-TakeOverGTs</li> <li>Version 3 of the PDD and emission reduction calculations are now <u>consistent with 7 months</u> operating time</li> <li><u>Estimation of GHG reductions</u> has been included in Version 3 of the PDD</li> </ul>		
<i>It shall provide and indentified the</i>	02Ev-DEWACHillerStL-TakeOverGT (providing evidence for name		

VALIDATION REPORT  
DEWA Chiller Station L

<i>evidences proposed (if applicable)</i>	of turbines)	
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	<p>The names of the three gas turbines have been updated in the final version of the PDD and evidence has been provided.</p> <p>The operating time of the TESTIAC system is consistent in all the PDD consistent with 7 months operating time</p> <p>Estimation of GHG reductions has been included in the final PDD.</p> <p>It is considered that CAR 3 is closed.</p>	
<b>PP RESPONSE #2</b>	<i>This section shall be filled by the PP.</i>	
<i>Corrective action</i>		
<i>Evidences proposed</i>		
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 4		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The PDD does not include the latitude and longitude in decimal points and a map of the site of the project activity. Further description/information of the location and geographical coordinates in decimal points shall be provided in section A.4.1.4 of the PDD.		
<b>PP RESPONSE #1</b> <i>This section shall be filled by the PP.</i>			
<i>It shall address the corrective action taken in details</i>	Version 3 of the PDD contains <u>geographical coordinates in decimal points and a map showing</u> the site of the project activity		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>			
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	The geographical coordinates have been correctly indicated in PDD.  It is considered that CAR 4 is closed.		
<b>PP RESPONSE #2</b> <i>This section shall be filled by the PP.</i>			
<i>Corrective action</i>			
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 5		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Section A.4.5 of the PPD shall refer to Appendix C to the simplified modalities and procedures for the SSC CDM project activities.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i> <i>It shall provide and indentified the evidences proposed (if applicable)</i>	<i>This section shall be filled by the PP.</i> In Version 3 of the PDD section <u>A.4.5</u> refers to <u>Appendix C</u> to the simplified modalities and procedures for the SSC CDM project activities.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Section A.4.5 of the final PPD has been updated to comply with to Appendix C to the simplified modalities and procedures for the SSC CDM project activities. It is considered that CAR 5 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i> <i>Evidences proposed</i>	<i>This section shall be filled by the PP.</i>		
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 6		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The description of the equipment and facilities of the project's system shall be further substantiated. Main technical characteristic of each component shall be described and evidence provided to the validation team.</p> <p>In addition, the diagram's quality shall be improved since the name of the equipment and parameters can't be read and values shall be in accordance with the information provided in all sections of the PDD.</p>		
<b>PP RESPONSE #1</b>	<i>This section shall be filled by the PP.</i>		
<i>It shall address the corrective action taken in details</i>	<p>In Version 3 of the PDD <u>a detailed description of the equipment</u> and facilities of the project's system is included (The latest version of the design book of the project's equipment turnkey provider is submitted as evidence 03Ev-DEWACHillerStL-ApinaDesignBook) and the <u>quality of the diagram has been improved</u>, including values in accordance with the information provided in all sections of the PDD</p>		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	<p>03Ev-DEWACHillerStL-ApinaDesignBook (The latest version of the design book of the project's equipment turnkey provider)</p>		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	<p>The description of the technology in the final PDD provides sufficient and transparent input/information to evaluate its impact on the greenhouse gas balance and suitable evidence has been provided.</p> <p>It is considered that CAR 6 is closed.</p>		
<b>PP RESPONSE #2</b>	<i>This section shall be filled by the PP.</i>		
<i>Corrective action</i>			

VALIDATION REPORT  
DEWA Chiller Station L

<i>Evidences proposed</i>		
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 7		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The table appearing in section A.4.3 of the PDD is not consistent with the starting date of the crediting period.		
<b>PP RESPONSE #1</b> <i>This section shall be filled by the PP.</i>			
<i>It shall address the corrective action taken in details</i>	The <u>starting date of the crediting period</u> has been changed to "01/01/2013 or the date of the registration of the project activity whichever is later" in Version 3 of the PDD. The table appearing in section A.4.3 is therefore now consistent with the starting date of the crediting period.		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>			
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	The table appearing in section A.4.3 of the final PDD is consistent with the starting date of the crediting period. It is considered that CAR 7 is closed.		
<b>PP RESPONSE #2</b> <i>This section shall be filled by the PP.</i>			
<i>Corrective action</i>			
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 8		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The reference and title of the approved baseline and monitoring methodology in section B.1 is not in accordance with the guidelines for completing the simplified PDD.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> The guidelines for completing the simplified PDD state: <i>..Please indicate the number and the version of the approved methodology that is used (e.g. "Version 9.0 of AMS-I.D.")...</i> Version 3 of the PDD includes the <u>appropriate changes</u>		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>			
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	The reference and title of the approved baseline and monitoring methodology in section B.1 of the final PDD is in accordance with the guidelines for completing the simplified PDD. It is considered that CAR 8 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i>	<i>This section shall be filled by the PP.</i>		
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	



VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 9		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The description of the criteria provided in section B.2 shall be consistent with those appearing in the methodology.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i> <i>It shall provide and indentified the evidences proposed (if applicable)</i>	<i>This section shall be filled by the PP.</i> In Version 3 of the PDD <u>criteria provided in section B.2</u> are consistent with those appearing in the methodology		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	The description of the criteria provided in section B.2 have been updated in the final PDD and are in accordance with the applicable methodology. It is considered that CAR 9 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i> <i>Evidences proposed</i>	<i>This section shall be filled by the PP.</i>		
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	N° 10		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Further description of the project boundary shall be provided in the PDD.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i> <i>It shall provide and indentified the evidences proposed (if applicable)</i>	<i>This section shall be filled by the PP.</i> A process flow diagram has been included in Version 3 of the PDD.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Further description of the project boundary has been provided in the final PDD ad and a process flow diagram has been also included. It is considered that CAR 10 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i> <i>Evidences proposed</i>	<i>This section shall be filled by the PP.</i>		
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 11		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The main milestones of the project shall be addressed in the PDD and their evidence provided in order to assess whether this date represents the earliest date on which the project activity begins.		
<b>PP RESPONSE #1</b>  <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i>  According to the Glossary of CDM Terms..... <i>In light of the above definition, the start date shall be considered to be the date on which the project participant has committed to expenditures related to the implementation or related to the construction of the project activity. This, for example, can be the date on which contracts have been signed for equipment or construction operation services required for the project activity</i>  The current Version 1 of the PDD contains the date (29/04/2010) on which the <u>Letter of Acceptance was signed</u> which includes the supply of the equipment as well as the design and construction and therefore meets the above mentioned definition of the start date.  The prior consideration form was received at UNFCCC 27/05/2010. The host country DNA has received the prior consideration about the project activity on 03/10/2010. This is within the 6 month period as required by the Guidelines on the Demonstration and Assessment of Prior Consideration of the CDM (Version 04). The starting date of civil works was 29/08/2010.  The PDD was uploaded for Validation on 12/11/2011 and the project activity technology was taken over by the project proponent on 29/11/2011		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	04Ev-DEWACHillerStL-LetterofAcceptance (Copy of Letter of Acceptance)		

---

 VALIDATION REPORT  
 DEWA Chiller Station L
 

---

	05Ev-DEWACHillerStL-PriorConUNFCCC (Screenshot of UNFCCC website demonstrating that on 27/05/2010 UNFCCC has received the prior consideration form for the project) 06Ev-DEWACHillerStL-PriorConDNA (Electronic copy of the letter informing host country DNA about the project) 07Ev-DEWACHillerStL-TakeOverTESTIAC-1 providing evidence for the date of take over of the TESTIAC system (page 1) and 07Ev-DEWACHillerStL-TakeOverTESTIAC-2 providing evidence for the date of take over of the TESTIAC system (page 2) 27Ev-DEWACHillerSTL-TechReport (page 16/37)	
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	The main milestones has been addressed in the final PDD an appropriate evidence has been provided. It is considered that CAR 11 is closed.	
<b>PP RESPONSE #2</b> <i>Corrective action</i> <i>Evidences proposed</i>	<i>This section shall be filled by the PP.</i>	
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	N° 12		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The procedures to calculate the energy baseline as technical losses of energy, baseline emissions and project emissions in accordance with the methodology shall be described in section B.6.1.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i> <i>It shall provide and indentified the evidences proposed (if applicable)</i>	<i>This section shall be filled by the PP.</i> The <u>procedures to calculate the energy baseline</u> as technical losses of energy, baseline emissions and project emissions in accordance with the methodology has been described and updated in section B.6.1 in Version 3 of the PDD.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	The procedures to calculate the energy baseline as technical losses of energy, baseline emissions and project have been described in section B.6.1. It is considered that CAR 12 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i> <i>Evidences proposed</i>	<i>This section shall be filled by the PP.</i>		
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	N° 13		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>The chapter B.6.2 of the PDD shall be completed with all parameters:</p> <ul style="list-style-type: none"> <li><math>\eta_{m,y\_oph}</math> : Gas turbine (71, 72 and 73) design efficiency at 45 degrees Celsius inlet air temperature.</li> <li><math>\eta_{m,y\_oph}</math> : Gas turbine (71, 72 and 73) design efficiency during operation of the TESTIAC system at 20 degrees Celsius inlet air temperature.</li> <li>Design capacity per each Gas Turbine.</li> </ul>		
<b>PP RESPONSE #1</b>	<i>This section shall be filled by the PP.</i>		
<i>It shall address the corrective action taken in details</i>	<p>The <u>procedures to calculate the energy baseline</u> as technical losses of energy, baseline emissions and project emissions in accordance with the methodology have been updated in Version 3 of the PDD. Therefore parameters as mentioned in CAR 13 are not used anymore for baseline/project emissions calculations</p>		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>			
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	<p>Above parameters are not used for baseline/project emissions calculations in the final PDD.</p> <p>The list of parameters presented in chapter B.6.2 is considered to be complete with regard to the requirements of the applied methodology. All the information required for each parameter is included.</p> <p>It is considered that CAR 13 is closed.</p>		
<b>PP RESPONSE #2</b>	<i>This section shall be filled by the PP.</i>		

---

VALIDATION REPORT  
DEWA Chiller Station L

---

<i>Corrective action</i>		
<i>Evidences proposed</i>		
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	N° 14		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The calculation of the ex-ante project emissions does not apply the formula 2 of the PDD and shall be corrected.		
<b>PP RESPONSE #1</b> <i>This section shall be filled by the PP.</i>			
<i>It shall address the corrective action taken in details</i>	The <u>procedures to calculate the energy baseline</u> as technical losses of energy, baseline emissions and project emissions in accordance with the methodology have been updated in Version 3 of the PDD.		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>			
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	The procedures to calculate the energy baseline as technical losses of energy, baseline emissions and project emissions in accordance with the methodology have been updated in the final PDD, so this CAR has not sense. It is considered that CAR 14 is closed.		
<b>PP RESPONSE #2</b> <i>This section shall be filled by the PP.</i>			
<i>Corrective action</i>			
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	



PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	N° 15		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	<p>Section B.7.1. of the PDD shall be updated with the following data of the parameters monitored:</p> <ul style="list-style-type: none"> <li>The correct data unit of the parameter <math>EG_{p,m,y\_oph}</math></li> <li>The source of data, monitoring frequency and QA/QC procedure to be applied of the Ambient Air Temperature.</li> <li>Data unit of the parameter <math>FC_{NG,m,y\_oph}</math> (m3 or normal m3).</li> </ul> <p>The frequency of the calibration activities of the metering equipments shall be detailed in accordance with "General Guidelines to SSC CDM methodologies".</p>		
<b>PP RESPONSE #1</b>	<i>This section shall be filled by the PP.</i>		
<i>It shall address the corrective action taken in details</i>	Updates have been made in Version 3 of the PDD		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>			
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	<p>The parameters monitored have been updated in the final PDD, so this CAR has not sense.</p> <p>It is considered that CAR 15 is closed.</p>		
<b>PP RESPONSE #2</b>	<i>This section shall be filled by the PP.</i>		
<i>Corrective action</i>			
<i>Evidences proposed</i>			

VALIDATION REPORT  
DEWA Chiller Station L

<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	N° 16		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Measurement equipment shall be further described (i.e. Technical specifications, etc) and evidence provided to the validation team.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> <u>Technical specifications</u> are presented in the attached evidences		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	09Ev-DEWACHillerSTL-EMeterGT providing evidence about technical specifications about meters measuring the electricity generation of the gas turbines 10Ev-DEWACHillerSTL-EMeterTESTIAC providing evidence about technical specifications about meter measuring electricity consumption of TESTIAC system 11Ev-DEWACHillerSTL-TempMeter providing evidence about technical specifications about meter measuring ambient air temperature at project activity site 12Ev-DEWACHillerSTL-GasflowMeter providing evidence about technical specifications about meter measuring gas input to gas turbines 31Ev-DEWACHillerSTL-DFOMeter providing evidence about technical specifications about meter measuring distillate fuel oil to gas turbines		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be</i>	Measurement equipment has been further described and appropriate evidence has been provided. It is considered that CAR 16 is closed.		

VALIDATION REPORT  
DEWA Chiller Station L

<i>added</i>		
<b>PP RESPONSE #2</b>	<i>This section shall be filled by the PP.</i>	
<i>Corrective action</i>		
<i>Evidences proposed</i>		
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	N° 17		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	The measurement accuracy shall be addressed and procedures for dealing with erroneous measurements or lack of data shall be developed.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> Accuracy levels are addressed in Version 3 of the PDD in section B.7.1; <u>procedures with erroneous measurements</u> or lack of data are included in section B7.2 of the PDD		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	Evidences for accuracy levels are listed below: 09Ev-DEWACHillerSTL-EMeterGT providing evidence about technical specifications about meters measuring the electricity generation of the gas turbines 10Ev-DEWACHillerSTL-EMeterTESTIAC providing evidence about technical specifications about meter measuring electricity consumption of TESTIAC system 11Ev-DEWACHillerSTL-TempMeter providing evidence about technical specifications about meter measuring ambient air temperature at project activity site 12Ev-DEWACHillerSTL-GasflowMeter providing evidence about technical specifications about meter measuring gas input to gas turbines 31Ev-DEWACHillerSTL-DFOMeter providing evidence about technical specifications about meter measuring distillate fuel oil to gas turbines		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure</i>	Measurement accuracy has been further described and procedures with erroneous measurements or lack of data are included in section B7.2 of the final PDD.		

VALIDATION REPORT  
DEWA Chiller Station L

<i>additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	It is considered that CAR 17 is closed.	
<b>PP RESPONSE #2</b>	<i>This section shall be filled by the PP.</i>	
<i>Corrective action</i>		
<i>Evidences proposed</i>		
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 18		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	A fixed 10 years period with a starting date in 01/07/2012 or the date of registration, whichever is later has been assumed by the PP. The reasonableness of the crediting period chosen shall be demonstrated by means of the "Tool to determine the remaining lifetime of equipment".		
<b>PP RESPONSE #1</b>	<i>This section shall be filled by the PP.</i>		
<i>It shall address the corrective action taken in details</i>	<p>As laid out under Version 3 of the PDD C.1.2 the 3 gas turbines were taken over by the project proponent GT L 71 04/06/2006, GT L 72 28/08/2006 GT L 73 11/08/2007.</p> <p>According to the design specifications of the manufacturer (option a) of the Tool) at the time when the gas turbines were ordered the lifetime of the gas turbines is 30 years.</p> <p>As laid out under Version 3 of the PDD C.1.2 the TESTIAC system was taken over on the 29/11/2011.</p> <p>According to the design specifications of the TESTIAC system the lifetime of the TESTIAC system is 30 years.</p> <p>These facts demonstrate that the crediting period chosen is reasonable.</p> <p>The starting date of the 10 years crediting period has been updated to 01/01/2013.</p>		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	<p>02Ev-DEWASStationL-TakeOverGTs providing evidence for the date of take over of the 3 gas turbines</p> <p>07Ev-DEWACHillerStL-TakeOverTESTIAC-1 providing evidence for the date of take over of the TESTIAC system (page 1) and</p> <p>07Ev-DEWACHillerStL-TakeOverTESTIAC-2 providing evidence for the date of take over of the TESTIAC system (page 2)</p> <p>13Ev-DEWACHillerStL-GTLifeTime providing evidence for the</p>		

VALIDATION REPORT  
DEWA Chiller Station L

	lifetime of gas turbines 14Ev-DEWACHillerStL-TESTIACLifeTime providing evidence for the lifetime of the TESTIAC system	
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	The reasonableness of the crediting period chosen has been demonstrated by means of the “Tool to determine the remaining lifetime of equipment” and appropriate evidence has been provided.  It is considered that CAR 18 is closed.	
<b>PP RESPONSE #2</b> <i>Corrective action</i> <i>Evidences proposed</i>	<i>This section shall be filled by the PP.</i>	
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>



VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	N° 19		
Classification	CAR <input checked="" type="checkbox"/>	CL <input type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	A summary of the comments received and responses shall be described in the PDD and evidence of the stakeholder's consultation shall be provided to the validation team.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> Version 3 of the PDD contains the summary of comments received from stakeholders and associated responses.		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	15Ev-DEWACHillerStL-StakeAnnounce providing evidence of announcement on 03/05/2011 of stakeholder event 16Ev-DEWACHillerSTL-StakeParticip providing evidence of participants in the stakeholder event 17EV-DEWACHillerSTL-StakeMinutes minutes of meeting of stakeholder event prepared by UNDP		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	A summary of the comments received and responses has been included in the final PDD and appropriate evidence has been provided. It is considered that CAR 19 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i>	<i>This section shall be filled by the PP.</i>		
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	CAR/CL CLOSED	To be checked during the periodic verification <input type="checkbox"/>	

---

VALIDATION REPORT  
DEWA Chiller Station L

---

	<input checked="" type="checkbox"/>	
--	-------------------------------------	--

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 1		
Classification	CAR <input type="checkbox"/>	CL <input checked="" type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Evidence of the current situation of the implementation of the project activity shall be provided to the validation team. For example: An updated timetable of the implantation of the project activity and technical reports.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> Evidence of final implementation of the project activity is attached to this response of the project participant.		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	07Ev-DEWACHillerStL-TakeOverTESTIAC-1 providing evidence for the date of take over of the TESTIAC system (page 1) 07Ev-DEWACHillerStL-TakeOverTESTIAC-2 providing evidence for the date of take over of the TESTIAC system (page 2) with date of 29/11/2011		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Appropriate evidence has been provided. It is considered that CL 1 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i>	<i>This section shall be filled by the PP.</i>		
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b>	To be checked during the periodic verification <input type="checkbox"/>	

---

VALIDATION REPORT  
DEWA Chiller Station L

---

	<input checked="checked" type="checkbox"/>	
--	--	--

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 2		
Classification	CAR <input type="checkbox"/>	CL <input checked="" type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Evidence to justify the PP can implement the project activity (i.e. ownership, licenses, permits and contracts) shall be provided to the validation team.		
<b>PP RESPONSE #1</b>	<i>This section shall be filled by the PP.</i>		
<i>It shall address the corrective action taken in details</i>	Evidence of order of equipment as well as evidence for final implementation of the project activity is attached to this response of the project participant.		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	04Ev-DEWACHillerStL-LetteroAcceptance which is the turn key contract between the project proponent (DEWA) and the provider of the project activity equipment 07Ev-DEWACHillerStL-TakeOverTESTIAC-1 providing evidence for the date of take over of the TESTIAC system (page 1) and 07Ev-DEWACHillerStL-TakeOverTESTIAC-2 providing evidence for the date of take over of the TESTIAC system (page 2) with date of 29/11/2011		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Appropriate evidence has been provided. It is considered that CL 2 is closed.		
<b>PP RESPONSE #2</b>	<i>This section shall be filled by the PP.</i>		
<i>Corrective action</i>			
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b>	CAR/CL CLOSED	To be checked during the	<input type="checkbox"/>

---

VALIDATION REPORT  
DEWA Chiller Station L

---

<i>Tick the appropriate checkbox</i>	<input checked="" type="checkbox"/>	periodic verification
--------------------------------------	-------------------------------------	-----------------------

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 3		
Classification	CAR <input type="checkbox"/>	CL <input checked="" type="checkbox"/>	FAR <input type="checkbox"/>
Description of finding <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Letter of Acceptance of order for equipment shall be submitted to the DOE in order to validate the starting date.		
PP RESPONSE #1 <i>It shall address the corrective action taken in details</i>	This section shall be filled by the PP. Letter of Acceptance is provided with this response to DOE		
<i>It shall provide and identified the evidences proposed (if applicable)</i>	04Ev-DEWACHillerStL-Letter of Acceptance		
DOE Assessment #1 <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Appropriate evidence has been provided. It is considered that CL 3 is closed.		
PP RESPONSE #2 <i>Corrective action</i>	This section shall be filled by the PP.		
<i>Evidences proposed</i>			
DOE Assessment #2			
Conclusion <i>Tick the appropriate checkbox</i>	CAR/CL CLOSED <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
<b>FINDING</b>	<b>Nº 4</b>		
<b>Classification</b>	<b>CAR</b> <input type="checkbox"/>	<b>CL</b> <input checked="" type="checkbox"/>	<b>FAR</b> <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Reliable evidence and source of data used shall be provided to the validation team.		
<b>PP RESPONSE #1</b>	<i>This section shall be filled by the PP.</i>		
<i>It shall address the corrective action taken in details</i>	Documents attached (letters from leading turbine manufacturers) to this response of PP to DOE are providing evidence that the project activity is not only in host country but worldwide an innovative new demonstration project and not prevailing practice.		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	18Ev-DEWACHillerStL-AddSiemens (letter from Siemens) 19Ev-DEWACHillerStL-AddGE (letter from General Electric) 20Ev-DEWACHillerStL-AddPW (letter from Pratt & Whitney)		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Appropriate evidence has been provided. It is considered that CL 4 is closed.		
<b>PP RESPONSE #2</b>	<i>This section shall be filled by the PP.</i>		
<i>Corrective action</i>			
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b>	To be checked during the periodic verification <input type="checkbox"/>	



---

VALIDATION REPORT  
DEWA Chiller Station L

---

	<input checked="" type="checkbox"/>	
--	-------------------------------------	--

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 5		
Classification	CAR <input type="checkbox"/>	CL <input checked="" type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Clarify the source of the data used and assumptions made to estimate the emission reductions (design capacity and efficiency of the gas turbines and design cooling power demand, parasitic load) and provide evidences to the validation team in order to assess the conservativeness of the calculations.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> Data sources and evidences for assumptions made in PDD are listed below		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	22Ev-DEWACHillerStL-NoteParasiticLoad a) to g) providing evidence(s) for design cooling power consumption or parasitic load 28Ev-DEWACHillerStL-APINATurbineEfficiency 30EV-DEWACHillerStL-HistoricData		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Appropriate evidence has been provided. It is considered that CL 5 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i>	<i>This section shall be filled by the PP.</i>		
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b>	To be checked during the periodic verification	<input type="checkbox"/>

---

VALIDATION REPORT  
DEWA Chiller Station L

---

	<input checked="checked" type="checkbox"/>	
--	--	--

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 6		
Classification	CAR <input type="checkbox"/>	CL <input checked="" type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Evidence of the technical lifetime of TESTIAC system, as well as the evidence required for using the "Tool to determine the remaining lifetime of equipment" shall be provided.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> Required evidences is attached to this response of project participant to DOE (according to "Tool to determine the remaining lifetime of equipment", option a.)		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	02Ev-DEWASStationL-TakeOverGTs providing evidence for the date of take over of the 3 gas turbines 07Ev-DEWACHillerStL-TakeOverTESTIAC-1 providing evidence for the date of take over of the TESTIAC system (page 1) and 07Ev-DEWACHillerStL-TakeOverTESTIAC-2 providing evidence for the date of take over of the TESTIAC system (page 2) 13Ev-DEWACHillerStL-GTLifeTime providing evidence for the lifetime of gas turbines 14Ev-DEWACHillerStL-TESTIACLifeTime providing evidence for the lifetime of the TESTIAC system		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Appropriate evidence has been provided. It is considered that CL 6 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i>	<i>This section shall be filled by the PP.</i>		

VALIDATION REPORT  
DEWA Chiller Station L

<i>Evidences proposed</i>		
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="checked" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 7		
Classification	CAR <input type="checkbox"/>	CL <input checked="" type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Evidence showing that EIA is not required shall be provided.		
<b>PP RESPONSE #1</b> <i>This section shall be filled by the PP.</i>			
<i>It shall address the corrective action taken in details</i>	The installation of the TESTIAC system is an energy efficiency measure and does not change the basic design of the station L. Therefore the project proponent has not carried out any new EIA for the TESTIAC system (there is an existing EIA for the whole L station). The project proponent has notified the municipality of Dubai about implementation of the TESTIAC system jointly with its emission and water discharge reports and has not received any objections.		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	23Ev-DEWACHillerStL-NonEIAEmissionReport2011 24Ev-DEWACHillerStL-NonEIA-FaxEmissionReport2011 25Ev-DEWACHillerStL-NonEIA-FaxWaterDischarge 29Ev-DEWACHillerStL-NonEIA-DM providing evidence that no EIA is required.		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Appropriate evidence has been provided. It is considered that CL 7 is closed.		
<b>PP RESPONSE #2</b> <i>This section shall be filled by the PP.</i>			
<i>Corrective action</i>			

VALIDATION REPORT  
DEWA Chiller Station L

<i>Evidences proposed</i>		
<b>DOE Assessment #2</b>		
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="checked" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>

VALIDATION REPORT  
DEWA Chiller Station L

PROJECT ACTIVITY	DEWA Chiller Station L		
FINDING	Nº 8		
Classification	CAR <input type="checkbox"/>	CL <input checked="" type="checkbox"/>	FAR <input type="checkbox"/>
<b>Description of finding</b> <i>Describe the finding in unambiguous style; address the context (e.g. section)</i>	Evidence of the media used – announcement in the local newspaper – shall be provided to the validation team.		
<b>PP RESPONSE #1</b> <i>It shall address the corrective action taken in details</i>	<i>This section shall be filled by the PP.</i> Required evidence is attached to this response of project participant to DOE		
<i>It shall provide and indentified the evidences proposed (if applicable)</i>	15Ev-DEWACHillerStL-StakeAnnounce providing evidence of announcement on 03/05/2011 of stakeholder event		
<b>DOE Assessment #1</b> <i>The assessment shall encompass all open issues. In case of non-closure additional corrective action and DOE assessments (#2, #3, etc.) shall be added</i>	Appropriate evidence has been provided. It is considered that CL 8 is closed.		
<b>PP RESPONSE #2</b> <i>Corrective action</i>	<i>This section shall be filled by the PP.</i>		
<i>Evidences proposed</i>			
<b>DOE Assessment #2</b>			
<b>Conclusion</b> <i>Tick the appropriate checkbox</i>	<b>CAR/CL CLOSED</b> <input checked="" type="checkbox"/>	To be checked during the periodic verification <input type="checkbox"/>	



VALIDATION REPORT  
DEWA Chiller Station L

## 7 REFERENCES

Ref	Document Name	Date	Author/Competent Authority
1	Approved methodology AMS-II.B version 9.0		CDM – Executive Board
2	PDD DEWA Chiller Station L version 1	11/11/2011	Project Proponent
3	PDD DEWA Chiller Station L version 2	01/08/2012	Project Proponent
4	Tool to determine the remaining lifetime of equipment version 01	16/10/2009	CDM – Executive Board
5	Guidelines on the demonstration of additionality of small-scale project activities, version 09.0	20/07/2012	CDM – Executive Board
6	CDM Validation and Verification Manual version 01.2	July 2010	CDM – Executive Board
7	Letter of Approval of the project activity	20/02/2012	Environment Agency - Abu Dhabi
8	IE-DTC-039		AENOR
9	Letter of Acceptance of the equipment (Starting date)	29/04/2012	DEWA/Apina
10	Glossary of the CDM terms version 6	02/03/2012	CDM – Executive Board
11	Operational Lifetime of GTs	2012	GE Power and Water
12	Taking over Certificates for GTs	31/01/2010	Lahmeyer International
13	Spreadsheet for the ERs calculation	2012	Project Proponents
14	Appendix C of the Simplified Modalities and Procedures for Small-Scale CDM project activities. Determining the occurrence of debundling		CDM – Executive Board
15	IPCC Guidelines of National GHG Inventories	2006	IPCC
16	Data of electricity generation and fuel consumption of GT L '71- GT L '73 for period 2008-2010	27/06/2012	DEWA
17	Net Calorific Value of natural gas for years 2008, 2009 and 2010	Various years	Dubai Supply Authority
18	Net Calorific Value of DFO for years 2008, 2009 and 2010	Various years	Geo-Chem Middle East
19	Parasitic Load of TESTIAC system	2010	Apina
20	Request for Clarification AM_CLA_0173	26/02/2010	CDM – Executive Board

VALIDATION REPORT  
DEWA Chiller Station L

Ref	Document Name	Date	Author/Competent Authority
21	Prior CDM consideration of the CDM to UNFCCC secretariat	27/05/2010	CDM – Executive Board
22	Start of Civil Works (Technical Report)	29/10/2010	Apina
23	Prior CDM consideration of the CDM to UAE DNA	03/10/2010	Environment Agency - Abu Dhabi
24	Publication of the PDD for global stakeholder consultation	12/11/2011	CDM – Executive Board
25	Take Over of TESTIAC system (Taking over Certificate)	29/11/2011	DEWA/Apina
26	Guidelines on the demonstration and assessment of prior consideration of the CDM version 04	15/07/2011	CDM – Executive Board
27	Letter of interest for sharing experience in air intake chilling system	06/02/2012	General Electric
28	Letter of interest for sharing experience in air intake chilling system	04/01/2012	Siemens
29	Letter of interest for sharing experience in air intake chilling system	02/02/2012	Pratt & Whitney Power Systems Inc.
30	Project 2686: Low pressure steam generation by recovering waste heat using Heat Re-claimers at Emirates CMS Power		CDM – Executive Board
31	Project 2534: Abu Dhabi solar thermal power project, Masdar		CDM – Executive Board
32	Project 2444: ADFEC 10 MW Solar Power Plant		CDM – Executive Board
33	Stakeholders meeting announcement	03/05/2011	Gulf News Newspaper
34	Stakeholders minutes	17/05/2011	Project Proponent
35	Attendance List	17/05/2011	Project Proponent
36	Emission Report for year 2011	2011	Environmental Planning and Studies Department of Dubai Municipality/DEWA
37	Renewal of the permanent waste water discharge permit	2011	Marine Environment and Wildlife Department of Dubai Municipality/DEWA
38	Historical Data on Load Factors of combined cycle GTs connected to DEWA grid and DFO ratio in total fuel consumption.	Various years	Dubai Electricity and Water Authority
39	Approved consolidated baseline and monitoring methodology ACM0013 version 5.0.0	13/09/2012	CDM – Executive Board

---

VALIDATION REPORT  
DEWA Chiller Station L

---

Ref	Document Name	Date	Author/Competent Authority
40	Approved baseline methodology AM0029 version 03	May 2008	CDM – Executive Board
41	CLA SSC_136	November 2007	CDM – Executive Board
42	PDD DEWA Chiller Station L version 3	14/11/2012	Project Proponent

**ANNEX 1: CDM VALIDATION PROTOCOL**

VALIDATION PROTOCOL  
PROJECT: "DEWA CHILLER STATION L"

PROJECT PARTICIPANT:

DUBAI CARBON CENTRE OF EXCELLENCE  
DUBAI ELECTRICITY AND WATER AUTHORITY

Validation Type	
<input checked="" type="checkbox"/> Validation of a Project Activity	
Validation Team: Marcelino Pellitero Fernando Segarra	
Version of this Validation Protocol: 03	Date: 14/11/2011

VALIDATION REPORT  
DEWA Chiller Station L

CHECKLIST TOPIC / QUESTION	MoV/Ref.*	COMMENTS	Draft Conclusion	Final Conclusion
<b>A. GENERAL DESCRIPTION OF PROJECT ACTIVITY</b>				
<b>A.1. Approval</b>				
A.1.1 Have all the Parties involved in the project activity provided a written Letter of Approval of the project activity?	DR	<p>The audit team could find during the meeting with the DNA that the project participants have requested the Letter of Approval of the project activity, but it has not been obtained yet.</p> <p><b>CAR 1: The Letter of Approval of the project activity shall be provided to the validation team.</b></p> <p>The host country LoA has been provided.</p> <p><b>CAR 1 is closed.</b></p>	CAR 1	OK
A.1.2 Do the Letters of Approval confirm that: <ul style="list-style-type: none"> <li>• The Party is a Party to the Kyoto Protocol</li> <li>• The participation is voluntary</li> <li>• The CDM project activity contribute to the sustainable development (host Party)</li> <li>• The title of the project activity is precise and coincides with the title included in the PDD?</li> </ul>	DR	LoA confirmed that Party is a Party to the Kyoto Protocol, the participation is voluntary, the CDM project activity contributes to the sustainable development (host Party) and the title of the project activity is precise and coincides with the title included in the PDD	CAR 1	OK
A.1.3 Has the Letter of Approval be obtained from the project participants or directly from the DNA? In case that it has been obtained from the project participant, how has been assessed its authenticity?	DR	LoA has been provided from PP.	CAR 1	OK

VALIDATION REPORT  
DEWA Chiller Station L

A.1.4. If either LoA contains additional specification or conditions of the project activity, then has the request for registration been based on the documents specified in the LoA?	DR	The LoA does not contain any specification in the document.	CAR 1	OK
A.1.5. If the LoA references a specific version of the Validation Report or PDD and this version cannot be submitted, then has either of the following been submitted? a) a statement indicating final LoA has not been received, or b) an updated Validation Report/ PDD		The LoA does not refer to a specific version of a Validation Report.	CAR 1	OK
<b>A.2. Project participants</b>				
A.2.1. Is the form of required for the indication of project participants correctly applied in the PDD?	DR	Yes, the form of required for the indication of project participants is correctly applied in the PDD.	OK	OK
A.2.2. Is the participation of all project participants approved by a Party to the Kyoto Protocol?	DR	The participation of all project participants approved by a Party to the Kyoto Protocol	CAR 1	OK
A.2.3. Is all information on participants / Parties provided in consistency with details provided by further chapters of the PDD (in particular annex 1)?	DR	<b>CAR 2: Complete contact information of all project participants that are listed in section A.3 shall be provided in Annex 1 of the PDD.</b> Complete contact information of all project participants that are listed in section A.3 has been provided in Annex 1 of the final PDD. <b>CAR 2 is closed.</b>	CAR 2	OK
A.2.4. Are any other project participants approved but not listed in the PDD?	DR	No, they are not.	OK	OK

VALIDATION REPORT  
DEWA Chiller Station L

A.3. Project Design Document				
A.3.1. Does the used project title clearly enable to identify the unique CDM project activity? Is it consistent in all section of the PDD and in all documents?	DR	The title is clearly identified and it is consistent in all section of the PDD and in all documents.	OK	OK
A.3.2. Is there any indication concerning the version number and the date of the version? <i>(Note: PDDs older than 6 months are not acceptable)</i>	DR	Yes. The PDD has version number and date.	OK	OK
A.3.3. Is this consistent with the time line of the project's history?	DR	Yes, it is consistent with the timeline of the project's history.	OK	OK
A.3.4. Is the PDD prepared in accordance with the latest template and requirements from the CDM Executive Board?	DR	Yes, The PDD is prepared in accordance with the latest template in accordance with VVM Track (version 03) and requirements from CDM Executive Board.	OK	OK
A.3.5. Has the PDD been published for Global Stakeholder Consultation (GSC) in UNFCCC website?	DR	Yes, the PDD was made publicly available for Global Stakeholder Consultation (GSC) in the UNFCCC website on 12 November 2011	OK	OK
A.3.6. Have there been any comments during the GSC process?	DR	There have not been any comments during the GSC process.	OK	OK
A.3.7. Have them correctly addressed by the validation team?	DR	Not applicable.	N/A	N/A
A.4. Description of the project activity				
The PDD (section A.2) shall contain a clear description of the project activity that provides the reader with a clear understanding of the precise nature of the project activity.				
A.4.1. Is the description delivering a transparent overview of the project activities?	DR	<b>CAR 3: The following issues of Section A. 2 of the PDD shall be corrected:</b> <ul style="list-style-type: none"> <li><b>The audit team could check during on site visit to Station L DEWA</b></li> </ul>	CAR 3	OK

VALIDATION REPORT  
DEWA Chiller Station L

Is the description of the proposed CDM project activity as contained in the PDD sufficiently covers all relevant elements, is accurate and that it provides the reader with a clear understanding of the nature of the proposed CDM project activity?		<p><b>that the name of the three gas turbines in PDD is not correct.</b></p> <ul style="list-style-type: none"> <li><b>The operating time of the TESTIAC system is not consistent in all the PDD. In section A.2, it is stated that the operating time of the TESTIAC system is 7 months of the year (between April – October) whereas in the spreadsheet for the ex-ante emissions calculation it is assumed that the operating time is 184 days (corresponding to 6 months).</b></li> <li><b>The estimation of the GHG emission reductions shall be stated.</b></li> </ul> <p>The names of the three gas turbines have been updated in the final version of the PDD and evidence has been provided.</p> <p>The operating time of the TESTIAC system is consistent in all the PDD consistent with 7 months operating time</p> <p>Estimation of GHG reductions has been included in the final PDD.</p> <p><b>CAR 3 is closed.</b></p> <p>The description delivers a transparent overview of the project activities.</p>		
A.4.2. What proofs are available demonstrating that the project description is in compliance with the actual situation or planning?	DR	<p><b>CL 1: Evidence of the current situation of the implementation of the project activity shall be provided to the validation team. For example: An updated timetable of the implantation of the project activity and technical reports.</b></p> <p>Appropriate evidence has been provided.</p> <p><b>CL 1 is closed.</b></p> <p>Evidence of the final implementation of the project activity has been provided.</p>	CL 1	OK
A.4.3. Is the information provided by these proofs consistent	DR	Yes, it is consistent.	CL 1	OK



VALIDATION REPORT  
DEWA Chiller Station L

with the information provided by the PDD?				
A.4.4. Has the validation team conducted a physical site inspection to confirm the description of the PDD? If not, justify.	DR	Yes, the validation team has conducted an on-site visit to the project activity on 13-15 of December 2011.  The audit team visited the DEWA Station L and reviewed the information of the PDD in his office in Jebel Ali.	OK	OK
A.4.5. If the proposed CDM project activity involves the alteration of an existing installation or process; does the project description clearly state the differences resulting from the project activity compared to the pre-project situation?	DR	Yes, the project description clearly states the differences resulting from the project activity compared to the pre-project situation.	OK	OK
A.4.6. In the case of greenfield project activity, is the project design described sufficiently by means of specifications, drawings and manuals?	DR	Not applicable. The project activity is not a Greenfield project activity.	N/A	N/A
A.4.7. Does the PDD explain how the proposed project activity reduces greenhouse gas emissions (i.e. what type of technology is being employed, what measures are undertaken as part of the project activity, etc);	DR	Yes, the PDD explains how the project activity reduces GHG emissions by improving the efficiency of three gas turbines by means of TESTIAC system.	CAR 3	OK
<b>A.5. Technical description of the project activity</b> The PDD (section A.4) shall contain a clear description of the project activity that provides the reader a clear understanding of the technical aspects of its implementation.				

VALIDATION REPORT  
DEWA Chiller Station L

<i>A.5.1. Location of the project activity</i>				
A.5.1.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude on the site indicated (decimal points)?	DR	<p>The project is located in Jebel Ali area in Jumeirah, Emirate of Dubai, UAE.</p> <p><b>CAR 4: The PDD does not include the latitude and longitude in decimal points and a map of the site of the project activity. Further description/information of the location and geographical coordinates in decimal points shall be provided in section A.4.1.4 of the PDD.</b></p> <p>The geographical coordinates have been correctly indicated in PDD.</p> <p><b>CAR 4 is closed</b></p>	CAR 4	OK
A.5.1.2. How is it ensured and/or demonstrated that the project proponents can implement the project at this site (ownership, licenses, contracts etc.)?	DR	<p>During the on site visit, the audit team found that the project activity was being built in that moment.</p> <p><b>CL 2: Evidence to justify the PP can implement the project activity (i.e. ownership, licenses, permits and contracts) shall be provided to the validation team.</b></p> <p>Appropriate evidence has been provided.</p> <p><b>CL 2 is closed.</b></p> <p>Evidence of order of equipment as well as evidence for final implementation of the project activity has been provided.</p>	CL 2	OK
<i>A.5.2. Category of the project activity</i>				
A.5.2.1. Does the project qualify as a small scale CDM project activity as defined in paragraph 6 (c) of decision 3/CMP.1 on the modalities and procedures for the CDM?	DR	Yes, the project activity qualifies as a small scale CDM project activity.	OK	OK

VALIDATION REPORT  
DEWA Chiller Station L

A.5.2.2. To which category(ies) does the project activity belonging to? Is this category correctly identified and indicated?	DR	<p>The project belongs to Type II “Energy efficiency improvement projects” and Category B “Supply side energy efficiency improvements – generation”.</p> <p>The category of the project activity has been correctly identified and indicated in the PDD.</p>	OK	OK
A.5.2.3. Does proposed project activity confirm to one of the project categories defined for small scale CDM project activities?	DR	<p>Yes, the project activity falls into category II.B: Supply side energy efficiency improvements – generation.</p>	OK	OK
A.5.2.4. In the case of a small scale project activity, is it justified that it is not a debundled component of a larger project activity?	DR	<p><b>CAR 5: Section A.4.5 of the PPD shall refer to Appendix C to the simplified modalities and procedures for the SSC CDM project activities.</b></p> <p>Section A.4.5 of the final PPD has been updated to comply with to Appendix C to the simplified modalities and procedures for the SSC CDM project activities.</p> <p><b>CAR 5 is closed.</b></p> <p>Yes, in accordance with paragraph 2 of Appendix C of Simplified Modalities and Procedures for small-scale CDM project activities, the PDD confirms in its section A.4.5 that the project activity is not a debundled of a large project activity since the project participant has not registered or applied for registration other project in the same project category and technology/measures within the previous 2 years and whose project boundary is not within 1 km of the project boundary of the proposed small-scale activity at the closest point.</p>	CAR 5	OK
A.5.2.5. In case of small scale project activities, is the estimate of emissions reductions increasing during the		<p>No, the estimated emissions reductions are constant during the crediting period.</p>	OK	OK

VALIDATION REPORT  
DEWA Chiller Station L

crediting period?  In affirmative case, have project participants demonstrated in the CDM-SSC-PDD that the project activity characteristics are defined in a way that precludes project activities to go beyond the limits for SSC Project activities (as stipulated in paragraph 3 of the General Guidelines to SSC CDM methodologies)?				
<i>A.5.3. Technology to be employed by the project activity</i>				
A.5.3.1. Does the description of the technology to be applied provide sufficient and transparent input/information to evaluate its impact on the greenhouse gas balance? And, is the explanation how the project will reduce greenhouse gas emission transparent and suitable?	DR	<p><b>CAR 6: The description of the equipment and facilities of the project's system shall be further substantiated. Main technical characteristic of each component shall be described and evidence provided to the validation team.</b></p> <p><b>In addition, the diagram's quality shall be improved since the name of the equipment and parameters can't be read and values shall be in accordance with the information provided in all sections of the PDD.</b></p> <p>The description of the technology in the final PDD provides sufficient and transparent input/information to evaluate its impact on the greenhouse gas balance and suitable evidence has been provided.</p> <p><b>CAR 6 is closed.</b></p>	CAR 6	OK
A.5.3.2. Does the project require extensive initial training and maintenance efforts in order to be carried out as scheduled during the project period? If so, does the project	DR	The PDD considers in the monitoring plan, actions regarding training of monitoring personnel and maintenance and operation of the project activity.	OK	OK

VALIDATION REPORT  
DEWA Chiller Station L

make provisions for meeting training and maintenance needs?				
A.5.3.3. Is a schedule available for the implementation of the project and are there any risks for delays? Is the schedule consistent with the starting date of the crediting period?	DR	The schedule for the implementation of the project is consistent with the starting date of the crediting period.	CL 1	OK
<i>A.5.4. Estimated amount of emission reductions over the chosen crediting period</i>				
A.5.4.1. Is the form required for the indication of projected emission reductions correctly applied?	DR	<p><b>CAR 7: The table appearing in section A.4.3 of the PDD is not consistent with the starting date of the crediting period.</b></p> <p>The starting date of the crediting period has been changed to "01/01/2013 or the date of the registration of the project activity whichever is later" in the final PDD. The table appearing in section A.4.3 is therefore now consistent with the starting date of the crediting period.</p> <p><b>CAR 7 is closed.</b></p>	CAR 7	OK
A.5.4.2. Are the figures provided consistent with other data presented in the PDD?	DR	All the figures are consistent throughout the PDD and the spreadsheet	CAR 7	OK
<i>A.5.5. Public funding of the project activity</i>				
A.5.5.1. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance?	DR	The project will not receive any public funding from Parties included in Annex I.	OK	OK

VALIDATION REPORT  
DEWA Chiller Station L

A.5.5.2. Is all information provided consistent with the details given in remaining chapters of the PDD (in particular annex 2)	DR	Yes, the information is consistent with annex 2.	OK	OK
<b>B. BASELINE AND MONITORING METHODOLOGY</b>				
<b>B.1. Title and reference of the approved baseline and monitoring methodology</b>				
B.1.1. Are reference number, version number, and title of the approved baseline and monitoring methodology clearly indicated?	DR	<p><b>CAR 8: The reference and title of the approved baseline and monitoring methodology in section B.1 is not in accordance with the guidelines for completing the simplified PDD.</b></p> <p>The reference and title of the approved baseline and monitoring methodology in section B.1 of the final PDD is in accordance with the guidelines for completing the simplified PDD.</p> <p><b>CAR 8 is closed.</b></p> <p>Yes, the methodology applied in the proposed project is the approved methodology for small scale CDM project AMS.II.B version 09: Supply-side energy efficiency improvements-generation.</p>	CAR 8	OK
B.1.2. Is the applied version the most recent one and / or is this version still applicable?	DR	Yes, the version applied (version 9) is the most recent one.	OK	OK
B.1.3. Does the PDD refer to the corresponding tools with their latest approved versions?	DR	No tools are required by the methodology.	OK	OK
B.1.4. Have any sources of greenhouse gas emissions been	DR	No, they have not been identified.	OK	OK

VALIDATION REPORT  
DEWA Chiller Station L

identified by the DOE ,within the project boundary following project implementation, which are expected to contribute more than 1% of the overall expected average annual emissions reductions, and which are not addressed by the applied methodology?				
<b>B.2. Applicability of the selected methodology to the project activity</b>				
B.2.1. Are the chosen tools considered applicable in accordance with the design of the project and the provisions of the applied methodology?	DR	No tools are required by the methodology.	OK	OK
B.2.2. Is the choice of the methodology correctly justified by the PDD and is the project in conformance with all applicability criteria of the applied methodology?	DR	<p><b>CAR 9: The description of the criteria provided in section B.2 shall be consistent with those appearing in the methodology.</b></p> <p>The description of the criteria provided in section B.2 have been updated in the final PDD and are in accordance with the applicable methodology.</p> <p><b>CAR 9 is closed.</b></p> <p>Yes, the methodology selected has been correctly justified in PDD.</p>	CAR 9	OK
B.2.3 Has been applied the specific guidance provided by the CDM Executive Board in respect to the approved methodology?	DR	Yes, the specific guidance provided by the CDM Executive Board in respect to the approved methodology has been applied.	OK	OK
Fill in the required amount of sub checklists for applicability criteria as given by the methodology applied and comment at least every line answered with "No"				

VALIDATION REPORT  
DEWA Chiller Station L

<p>B.2.4. Criterion 1 –</p> <p>This category comprises technologies or measures to improve the efficiency of fossil fuel generating units that supply an electricity or thermal system by reducing energy or fuel consumption by up to the equivalent of 60 GWh<sub>e</sub> per year. Examples include efficiency improvements at power stations and district heating plants and co-generation. The technologies or measures may be applied to existing stations or be part of a new facility.</p> <p>A total saving of 60 GWh<sub>e</sub> is equivalent to maximal saving of 180 GWh<sub>th</sub> in the fuel input to the generation unit.</p>	DR		<b>Applicability checklist</b>	<b>Yes/No</b>		CAR 9	OK
			Criterion discussed in the PDD?	Yes			
			Evidence provided?	Yes			
			Compliance verified?	Yes			
<p>B.2.5. Was there a request for clarification, revision or deviation made for the adopted methodology in relation to the proposed project activity?</p> <p>If so, were the correct procedures provided by the CDM EB followed?</p>	DR	There was not made any request for clarification, revision or deviation of the adopted methodology in relation to the proposed project activity.				OK	OK
<b>B.3. Description of the Project Boundary</b>							
<p>B.3.1 Are all the sources and gases included in the project boundary of the project activity (baseline scenario, project scenario and leakage) in accordance with the applied</p>	DR	<p>Yes, the project boundary is in accordance with the applied methodology.</p> <p><b>CAR 10: Further description of the project boundary shall be provided in the PDD.</b></p>				CAR 10	OK



VALIDATION REPORT  
DEWA Chiller Station L

methodology?		Further description of the project boundary has been provided in the final PDD ad and a process flow diagram has been also included.  <b>CAR 10 is closed.</b>  All the sources and gases are included in the project boundary of the project activity (baseline scenario, project scenario and leakage) in accordance with the applied methodology		
B.3.2. Are the inclusion or exclusion of the sources of gases correctly justified?	DR	The project boundary has been followed in accordance with the approved methodology.	CAR 10	OK
B.3.3. Do the spatial and technological boundaries as verified on-site comply with the discussion provided by the PDD?	DR	The PDD include a discussion about the spatial and technical boundaries of the project activity. During on site visit the boundaries of the project have been verified.	CAR 10	OK
B.3.4. In case of grid connected electricity projects, is the relevant grid correctly identified in accordance with EB guidance and the underlying methodology?	DR	Not applicable.	N/A	N/A
<b>B.4. Description of the baseline scenario identification</b>				
B.4.1. Is the baseline scenario clearly described?	DR	Yes, the baseline scenario is clearly described in accordance with the applied baseline methodology.	OK	OK
B.4.2. Have there been other alternative scenarios considered? Is it justified the selected scenario as the most likely one?	DR	Not applicable. The baseline methodology does not require considering other alternative scenarios.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

B.4.3. Does the PDD follow the steps to determine the baseline scenario required by the methodology?	DR	Yes, The PDD follows the steps defined in the applied methodology for determining the baseline. Thus, no other alternative scenarios have been identified.	OK	OK
B.4.4. Has the baseline scenario been determined using conservative assumptions where possible?	DR	The baseline scenario has been determined using the baseline methodology.	OK	OK
B.4.5. Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies? ( <i>Note: refer Annex 3 EB 22</i> ). Are they listed in the PDD?	DR	Yes, relevant national and/or sectoral policies and circumstance has been considered in the determination of the baseline.	OK	OK
B.4.6 If alternatives are excluded:  a.- Is sufficient evidence/ justification provided to support every exclusion of alternatives? Is it reasonable?  b.- Is it shown that at least one credible and feasible alternative does not face a barrier? Is this reasonable?	DR	Not applicable.	N/A	N/A
B.4.7 Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	DR	Yes, the baseline scenario is compatible with the available data and sources are clearly referenced.	OK	OK

**B.5. Description of how the anthropogenic emissions of GHG by sources are reduced below those that would have occurred in the absence of the registered CDM project activity (assessment and demonstration of additionality):**

VALIDATION REPORT  
DEWA Chiller Station L

B.5.1 Is the start date defined in accordance with the "Glossary of CDM terms"? What evidence is provided to verify that this was the official start date? Is this considered reliable and reasonable?	DR	<p>Yes, the starting date of the project activity is established on 29/04/2010, date on which the Letter of Acceptance of project equipment was issued.</p> <p><b>CL 3: Letter of Acceptance of order for equipment shall be submitted to the DOE in order to validate the starting date.</b></p> <p>The letter of Acceptance has been provided.</p> <p><b>CL 3 is closed</b></p> <p><b>CAR 11: The main milestones of the project shall be addressed in the PDD and their evidence provided in order to assess whether this date represents the earliest date on which the project activity begins.</b></p> <p>The main milestones has been addressed in the final PDD an appropriate evidence has been provided.</p> <p><b>CAR 11 is closed.</b></p>	CL 3 CAR 11	OK
B.5.2 Is it a new project activity (start date on or after August 2008) or an existing project?	DR	Yes, it is a new project activity, since the start date is after August 2008.	OK	OK
<p>B.5.3 For a new project which does not require a new methodology and has not published its PDD for stakeholder comments prior to the start date, then:</p> <p>a. Have the project proponents informed the DNA and/or UNFCCC secretariat in writing? How has this notification been verified? (i.e. confirmation from the DNA or UNFCCC)</p> <p>b. Was the notification made within 6 months of the project</p>	DR	<p>The prior consideration has been demonstrated according to the latest guidance on the demonstration and assessment of prior consideration of the CDM" and evidence has been provided to DOE.</p> <p>The project participant informed the DNA on 03/10/2010 by mail and UNFCCC secretariat received the communication of the prior consideration on 27/05/2010, both notifications were made within 6 months of the project activity start date, on 29/04/2010.</p>	CAR 11	OK

VALIDATION REPORT  
DEWA Chiller Station L

<p>activity start date?</p> <p>c. Does the letter/ notification indicate the precise geographic location and provide a brief description of the proposed project?</p> <p>d. Have the project proponents informed the DNA and/ or UNFCCC secretariat of the progress of the project activity every subsequent two years after the initial notification?</p>				
<p>B.5.4 For an existing project which has a start date prior to the publication of the PDD for global stakeholder comments, has the project proponent provided the following:</p> <p>a. Evidence of awareness of the CDM prior to the project activity start date and that the benefits of the CDM were a decisive factor in the decision to proceed with the project? (e.g. Board minutes, notes etc) Is this sufficient?</p> <p>b. Reliable evidence that demonstrates real actions were taken to secure CDM status in parallel with the project's implementation? (e.g. contracts with consultants for CDM/PDD/methodology services, ERPAs, correspondence with CER buyers, DOEs, DNAs or the UNFCCC). Is this</p>	DR	Not applicable. It is a new project.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

sufficient?				
B.5.5. Is the project additionality assessed according to the applicable methodology? Detail the Tool used to demonstrate the Additionality of the project activity.	DR	Yes, the additionality is assessed according to the “Guidelines on the demonstration of additionality of small-scale project activities” (version 09.0) previously known as “Attachment A of Appendix B to simplified modalities and procedures of small scale CDM project activities”.	OK	OK
B.5.6. In the case of a small scale project activity, is the additionality justified according to the applicable CDM requirements specific for small scale project activities?	DR	Yes, the additionality is assessed according to the “Guidelines on the demonstration of additionality of small-scale project activities” (version 09.0) previously known as “Attachment A of Appendix B to simplified modalities and procedures of small scale CDM project activities”.	OK	OK
B.5.7 Have realistic and credible alternatives been identified providing comparable outputs or services?	DR	The project applies the “Guidelines on the demonstration of additionality of small-scale project activities” (version 09.0) previously known as “Attachment A of Appendix B to simplified modalities and procedures of small scale CDM project activities”.  Taking into account the VVM 01.2, as the approved methodology prescribes de baseline scenario, no further analysis is required in the identification of alternatives	OK	OK
B.5.8. Is the project activity without CDM included in these alternatives?	DR	Not applicable. The project applies the “Guidelines on the demonstration of additionality of small-scale project activities” (version 09.0) previously known as “Attachment A of Appendix B to simplified modalities and procedures of small scale CDM project activities”.	N/A	N/A
B.5.9. Is a discussion provided for all identified alternatives concerning the compliance with applicable laws and regulations?	DR	Not applicable. The project applies the “Guidelines on the demonstration of additionality of small-scale project activities” (version 09.0) previously known as “Attachment A of Appendix B to simplified modalities and procedures of small scale CDM project activities”.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

B.5.10. In case of using a FSR as a basis of the decision, is this analysis made in accordance with the EB Guidance?	DR	Not applicable. The project activity does not use a FSR as a basis of the decision.	N/A	N/A
B.5.11. In case the PDD argues that specific laws are not enforced in the country or region: Is evidence available concerning that statement?	DR	Not applicable.	N/A	N/A
B.5.12. In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately?	DR	Not applicable.	N/A	N/A
B.5.13. In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?  a. Are the assumptions for all alternatives compared consistent (including discount rates if applicable)?	DR	Not applicable.	N/A	N/A
B.5.14. In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?  a. Are the assumptions for all alternatives compared	DR	Not applicable.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

consistent (including discount rates if applicable)?				
<p>B.5.15. In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?</p> <p>a. If an IRR indicator is used, is the choice of benchmark appropriate to the type of IRR calculated? (</p> <p>b. Is the choice of benchmark or discount rate justified with supporting evidence for its appropriateness?</p>	DR	Not applicable.	N/A	N/A
B.5.16 If risk premiums are applied in the development of the benchmark, are they reasonable and justified?	DR	Not applicable.	N/A	N/A
B.5.17 Do the project participants justify the period of assessment in the context of the underlying project activity?	DR	Not applicable.	N/A	N/A
B.5.18 Is the period of assessment appropriate?	DR	Not applicable.	N/A	N/A
B.5.19 Is any residual value of the project activity assets included in the analysis? Are residual value calculations reasonable and justified and consistent with local accounting rules or international best practice?	DR	Not applicable.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

B.5.20 Are depreciation and other non-cash items related to the project activity deducted from net profits used for calculating the financial indicator (e.g. IRR, NPV)?	DR	Not applicable.	N/A	N/A
B.5.21 Is the treatment of taxation consistent with the chosen benchmark? (i.e. taxation should only be treated as an expense in the IRR/NPV calculation if the chosen benchmark is intended for post-tax calculations?)	DR	Not applicable.	N/A	N/A
<p>B.5.22 Recommended project: If the implementation of the project ceased and then recommenced due to consideration of the CDM, then:</p> <p>a. Are input values valid and applicable at the time of making the decision to recommence the project?</p> <p>b. Are capital costs incurred prior to the revised project activity start date input as the recoverable value of the assets (limited to the potential reuse/ resale of tangible assets)?</p> <p>c. How has the fair market value of the capital expenditures been calculated and validated? (e.g. by chartered specialists). Is this fair market value reasonable and</p>	DR	Not applicable.	N/A	N/A



VALIDATION REPORT  
DEWA Chiller Station L

justified?  d.- Is the book value as well as the expectation of the potential profit or loss included in the fair value calculation?				
B.5.23 Has the project participant supplied unprotected and traceable spreadsheet versions of all investment analysis?	DR	Not applicable.	N/A	N/A
B.5.24 From the investment analysis provided, is it possible to reproduce the results?	DR	Not applicable.	N/A	N/A
B.5.25 Costs of financing expenditures (i.e. loan repayments and interest) should only be included in the cashflow as costs if an equity IRR is used, not if a project IRR is used.  Are interest payments taken into account in the calculation of tax, if the benchmark is for after-tax comparison?	DR	Not applicable.	N/A	N/A
B.5.26 If an Equity IRR has been used, is the debt portion of the investment cost included as a cash outflow?  (i.e. as well as interest costs and principle repayments – double counting)	DR	Not applicable.	N/A	N/A
B.5.27 Sensitivity analysis:	DR	Not applicable.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

a. Are all variable and critical costs and revenues in the analysis included in the sensitivity analysis?				
b. Is the assessed range of variations reasonable in light of the reliability of the estimated input values and the likely range?				
c. Is the sensitivity analysis possible to reproduce?				
B.5.28 Are <b>input values</b> used in all the investment analysis valid and applicable at the time of the investment decision taken by the project participant?  Is the time of investment decision appropriately justified by evidences?	DR	Not applicable.	N/A	N/A
B5.29 Does the PDD present the investment analysis in a transparent manner and provide all the relevant assumptions (preferably in the CDM-PDD form, or in separate annexes to the CDM-PDD)	DR	Not applicable.	N/A	N/A
B.5.30 Have the listed input values been consistently applied in all calculations?	DR	Not applicable.	N/A	N/A
B.5.31 Are all references made in the investment analysis	DR	Not applicable.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

correctly referenced/ sourced? Have these sources been verified?				
B.5.32 Have financial calculations been verified by: assessing all parameters and assumptions against the available evidence and expertise; crosschecking the parameters against 3rd party or publicly available sources; reviewing feasibility reports, public announcements and annual financial reports; assessing the correctness of computations and the sensitivity analysis?	DR	Not applicable.	N/A	N/A
<p>B.5.33 Have values from a feasibility study report (FSR) approved by national authorities been used? If so:</p> <p>a. Has the FSR been the basis of the decision to proceed with the investment in the project?</p> <p>How has this been verified?</p> <p>b. Are the values used in the PDD and associated annexes valid and consistent with the FSR?</p> <p>c. At the time of the investment decision, are the input values from the FSR valid and applicable (based on specific local and sectoral expertise and knowledge)?</p>	DR	Not applicable.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

B.5.34. In case of applying step 3 (barrier analysis) of the additionality tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	DR	Yes a complete list of barriers has been developed.	OK	OK
B.5.35. Do any such identified barriers have a clear and direct impact on the financial returns of the project activity? (these are not barriers and should be assessed in the investment analysis)	DR	No, they don't have a direct impact on the financial returns of the project activity.	OK	OK
B.5.36 Are the identified barriers real and substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics?	DR	<p><b>CL 4: The PP identifies prevailing practice barriers for the proposed project activity. Reliable evidence and source of data used shall be provided to the validation team.</b></p> <p>Appropriate evidence has been provided.</p> <p><b>CL 4 is closed.</b></p> <p>Identified prevailing practice barriers are considered real and substantiated by independent sources of data.</p>	CL 4	OK
B.5.37. Is it clearly explained how approval of the project in the CDM would enable the proposed project activity to surmount the barrier? Is the rationale reasonable and justified with evidence?	DR	Yes it is clearly explained and it is reasonable.	CL 4	OK
B.5.38. Does the review of relevant background information on the nature of the company(ies) and entity(ies) involved	DR	Not applicable.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

in the financing and implementation of the project sufficiently justify that the barriers related to the lack of access to capital, technologies and skilled labour are real?				
B.5.39 Has common practice analysis been undertaken?	DR	Not applicable. The project applies the latest version of the "Guidelines on the demonstration of additionality of small-scale project activities".	N/A	N/A
B.5.40 Is the geographical and temporal scope of the common practice analysis appropriate for the assessment related to the project activity's technology or industry type?	DR	Not applicable. The project applies the latest version of the "Guidelines on the demonstration of additionality of small-scale project activities".	N/A	N/A
B.5.41 Have all comparable projects been included in the common practice analysis  If some projects have been excluded as non comparable, is the exclusion reasonable and justified?	DR	Not applicable. The project applies the latest version of the "Guidelines on the demonstration of additionality of small-scale project activities".	N/A	N/A
B.5.42 Have similar and operational projects other than CDM project activities been undertaken in the region?	DR	Not applicable. The project applies the latest version of the "Guidelines on the demonstration of additionality of small-scale project activities".	N/A	N/A
B.5.43 Are these widely observed and commonly carried out?  If so:  a. How have the essential distinctions with the proposed	DR	Not applicable. The project applies the latest version of the "Guidelines on the demonstration of additionality of small-scale project activities".	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

CDM project activity been assessed?				
b. Are such distinctions justified with sufficient evidence?				
c. If inaccessibility of data is the reason why some projects have not been included in the analysis, is justification of this claim provided?				
B.5.44 Overall, is the proposed CDM project activity considered common practice?	DR	Not applicable. The project applies the latest version of the "Guidelines on the demonstration of additionality of small-scale project activities".	N/A	N/A
B.5.45. Is it demonstrated/justified that the project activity is not a likely baseline scenario?	DR	Yes, it is demonstrated.	CAR 11 CL 3 CL 4	OK
<b>B.6. Emissions reductions</b>				
<i>B.6.1. Explanation of methodological choices</i>				
B.6.1.1. Is it explained how the procedures provided in the methodology are applied by the proposed project activity?	DR	<p><b>CAR 12: The procedures to calculate the energy baseline as technical losses of energy, baseline emissions and project emissions in accordance with the methodology shall be described in section B.6.1.</b></p> <p>The procedures to calculate the energy baseline as technical losses of energy, baseline emissions and project have been described in section B.6.1.</p> <p><b>CAR 12 is closed.</b></p>	CAR 12	OK

VALIDATION REPORT  
DEWA Chiller Station L

B.6.1.2. Is every selection of options offered by the methodology correctly justified and is this justification in line with the situation verified on-site?	DR	Every selection of options offered by the methodology is correctly justified and the justifications are in line with the situation verified on-site.	CAR 12	OK
B.6.1.3. Are the formulae required for the determination of emissions reductions correctly presented and used? ( <i>Open excel, trazability of data, etc</i> )	DR	Yes, the formulae required for the determination of emissions reductions are correctly presented and used in the PDD and the spreadsheet.	CAR 3 CAR 12	OK
B.6.1.4 Are all the data and assumptions listed in the PDD and are appropriate and calculations result in a conservative estimate of emission reductions?	DR	<b>CL 5: Clarify the source of the data used and assumptions made to estimate the emission reductions (design capacity and efficiency of the gas turbines and design cooling power demand, parasitic load) and provide evidences to the validation team in order to assess the conservativeness of the calculations.</b>  Appropriate evidence has been provided.  <b>CL 5 is closed.</b>	CL 5	OK
<i>B.6.2. Data and parameters that are available at validation</i>				
B.6.2.1. Is the list of parameters presented in chapter B.6.2. considered to be complete with regard to the requirements of the applied methodology? Is all the information required for each parameter included?	DR	<b>CAR 13: The chapter B.6.2 of the PDD shall be completed with all parameters:</b>  <ul style="list-style-type: none"> <li><math>\eta_{m,y\_oph}</math> : Gas turbine (71, 72 and 73) design efficiency at 45 degrees Celsius inlet air temperature.</li> <li><math>\eta_{m,y\_oph}</math> : Gas turbine (71, 72 and 73) design efficiency during operation of the TESTIAC system at 20 degrees Celsius inlet air temperature.</li> </ul>	CAR 13	OK

VALIDATION REPORT  
DEWA Chiller Station L

		<ul style="list-style-type: none"> <li><b>Design capacity per each Gas Turbine.</b></li> </ul> <p>Above parameters are not used for baseline/project emissions calculations in the final PDD.</p> <p><b>CAR 13 is closed.</b></p> <p>The list of parameters presented in chapter B.6.2 is considered to be complete with regard to the requirements of the applied methodology. All the information required for each parameter is included.</p>		
B.6.2.2. Are all the data derived from official data sources or replicable records and have been correctly quoted?	DR	All the data are derived from official data sources or replicable records and they have been correctly quoted.	CL 5 CAR 13	OK
B.6.2.3. For each parameter a. Title in line with Methodology? b. Data unit correctly expressed? c. Appropriate description? d. Source clearly referenced? (and appropriate?) e. Correct value provided? f. Has this value been verified? g. Choice of data correctly justified? h. Measurement method correctly described?	DR	<p>For all parameters in section B.6.2 of the final PDD, i.e., <math>EF_{CO_2,NG,y}</math>, <math>EG_{m,h}</math>, <math>FC_{m,NG,h}</math>, <math>FC_{m,DFO,h}</math>, <math>NCV_{NG,h}</math>, <math>NCV_{DFO,h}</math> the titles are in line with methodology, data units are correctly expressed, the descriptions are appropriate, the sources are clearly referenced, the values are correct, and they have been verified and correctly justified, and measurement methods described.</p>	OK	OK



VALIDATION REPORT  
DEWA Chiller Station L

B.6.2.4. Will the data and parameters result in a conservative estimate of emissions reductions?	DR	Yes, the data and parameters result in a conservative estimate of emission reductions.	CL 5 CAR 13	OK
<b>B.6.3 Calculation of GHG Emission Reductions – Baseline Emissions</b> <i>It is assessed whether the baseline emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>				
B.6.3.1 Are the calculations documented according to the approved methodology and in a complete and transparent manner?	DR	Calculations for the emission reductions have been provided and they are documented according to the approved methodology in a complete and transparent manner.	CAR 12 CAR 13	OK
B.6.3.2. Have conservative assumptions been used when calculating the baseline emissions?	DR	Conservative assumptions have been used when calculating the baseline emissions.	CAR 12 CAR 13	OK
B.6.3.3 Are uncertainties in the baseline emission estimates properly addressed?	DR	Uncertainties in the baseline emission estimates are properly addressed.	CAR 12 CAR 13	OK
B.6.3.4. Is additional background information on baseline data provided in Annex 3 of the PDD? Is this information consistent with data presented by other sections of the PDD?	DR	No, additional information on baseline data have not been provided in Annex 3 of the PDD.	OK	OK
<b>B.6.4 Calculation of GHG Emission Reductions – Project Emissions</b> <i>It is assessed whether the project emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>				

VALIDATION REPORT  
DEWA Chiller Station L

B.6.4.1 Are the calculations documented according to the approved methodology and in a complete and transparent manner?	DR	Calculations for the project emission have been provided and they are documented according to the approved methodology in a complete and transparent manner.	CAR 12 CAR 13	OK
B.6.4.2. Have conservative assumptions been used when calculating the project emissions?	DR	Conservative assumptions have been used when calculating the project emissions.	CAR 12 CAR 13	OK
B.6.4.3 Are uncertainties in the project emission estimates properly addressed?	DR	Uncertainties in the project emission estimates are properly addressed.	CAR 12 CAR 13	OK
<b>B.6.5. Calculation of GHG Emission Reductions – Leakage</b> <i>It is assessed whether leakage emissions are stated according to the methodology and whether the argumentation for the choice of default factors and values – where applicable – is justified.</i>				
B.6.5.1 Are the leakage calculations documented according to the approved methodology and in a complete and transparent manner?	DR	Not applicable. According to the methodology applied, project activity does not need to consider leakage, since the energy efficiency technology is not equipment transferred from another activity.	N/A	N/A
B.6.5.2. Have conservative assumptions been used when calculating the leakage emissions?	DR	Not applicable. According to the methodology applied, project activity does not need to consider leakage, since the energy efficiency technology is not equipment transferred from another activity.	N/A	N/A
B.6.5.3. Are uncertainties in the leakage emission estimates properly addressed?	DR	Not applicable. According to the methodology applied, project activity does not need to consider leakage, since the energy efficiency technology is not equipment transferred from another activity.	N/A	N/A

VALIDATION REPORT  
DEWA Chiller Station L

<i>B.6.6. Ex-ante calculation of emission reductions</i>				
B.6.6.1. Are the GHG calculations documented in a complete and transparent manner? Are all the calculations correct?	DR	<p><b>CAR 14: The calculation of the ex-ante project emissions does not apply the formula 2 of the PDD and shall be corrected.</b></p> <p>The procedures to calculate the energy baseline as technical losses of energy, baseline emissions and project emissions in accordance with the methodology have been updated in the final PDD, so this CAR has not sense.</p> <p><b>CAR 14 is closed.</b></p> <p>Yes, the calculations are documented in a complete and transparent manner.</p>	CAR 12 CAR 13 CAR 14	OK
B.6.6.2. Is the data provided in this section consistent with data as presented in other chapters of the PDD?	DR	Yes, the data are consistent along the PDD.	CAR 3 CAR 12 CAR 13 CAR 14	OK
<i>B.6.7. Summary of the ex-ante estimation of emission reductions</i>				
B.6.7.1. Will the project result in fewer GHG emissions than the baseline scenario?	DR	Yes, the project will result in fewer GHG emissions.	CAR 12 CAR 13 CAR 14	OK
B.6.7.2. Are the emissions reductions projected in line with the envisioned time schedule for the project?	DR	Yes, the emissions reductions projected are in line with the time schedule for the project' implementation and the indicated crediting period.	CAR 7	OK

VALIDATION REPORT  
DEWA Chiller Station L

implementation and the indicated crediting period?				
<b>B.7. Application of the monitoring methodology and description of the monitoring plan</b>				
<i>B.7.1. Description of the monitoring plan</i>				
B.7.1.1 Is the monitoring plan documented according to the approved methodology and relevant tools and in a complete and transparent manner?	DR	Yes, the Baseline and Monitoring methodology applied will be AMS.II-B, version 9.	OK	OK
B.7.1.2. Does the monitoring methodology provide a consistent approach in the context of all parameters to be monitored and further information provided in the PDD?	DR	<p>The Monitoring Plan does not include some data and parameters monitored.</p> <p><b>CAR 15: Section B.7.1. of the PDD shall be updated with the following data of the parameters monitored:</b></p> <ul style="list-style-type: none"> <li>• <b>The correct data unit of the parameter <math>EG_{p,m,y\_oph}</math></b></li> <li>• <b>The source of data, monitoring frequency and QA/QC procedure to be applied of the Ambient Air Temperature.</b></li> <li>• <b>Data unit of the parameter <math>FC_{NG,m,y\_oph}</math> (m3 or normal m3).</b></li> <li>• <b>The frequency of the calibration activities of the metering equipments shall be detailed in accordance with "General Guidelines to SSC CDM methodologies".</b></li> </ul> <p>The parameters monitored have been updated in the final PDD, so this CAR has not sense.</p> <p><b>CAR 15 is closed.</b></p> <p>Yes, the monitoring plan is documented according to the approved methodology.</p>	CAR 15	OK

VALIDATION REPORT  
DEWA Chiller Station L

B.7.1.3. Does the monitoring plan provide a clear description of the organization structure involved in monitoring activities and their responsibilities?	DR	Yes, the monitoring plan describes that the manager of the proposed project activity will assume overall responsibility for the monitoring process, including the definition of personnel involved with the monitoring work and describe the responsibilities of the personal involved.	OK	OK
B.7.1.4. If applicable: Does annex 4 provide useful information enabling a better understanding of the envisioned monitoring provisions?	DR	Not applicable.	N/A	N/A
B.7.1.5. Is the registration, monitoring, measurement and reporting procedure defined?	DR	Yes.	OK	OK
<i>B.7.2 Compliance of the monitoring plan with the approved methodology</i>				
B.7.2.1 Is the list of parameters considered to be complete with regard to the requirements of the applied methodology? Are all of them clearly described in the monitoring plan and in accordance with the methodology and tools?	DR	The list of the parameters has been completed in the latest PDD in accordance with the methodology and the tool applied.	CAR 15	OK
B.7.2.2. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	DR	Yes, provisions are included in the monitoring plan	CAR 15	OK

VALIDATION REPORT  
DEWA Chiller Station L

<p>B.7.2.3. For each parameter, is the:</p> <p>a. Title in line with methodology?</p> <p>b. Data unit correctly expressed?</p> <p>c. Parameter appropriately described?</p> <p>d. Source clearly referenced?</p> <p>e. Correct value provided for the purpose of PDD estimations?</p> <p>f. Has this value been verified?</p> <p>g. Measurement methods correctly described and in line with the methodology/tools?</p> <p>h. Correct reference to standards (i.e. for calibration and maintenance)?</p> <p>i. Indication of accuracy provided?</p> <p>j. QA/QC procedures described?</p> <p>k. QA/QC procedures appropriate?</p>		<p>For the each parameter in the monitoring plan, of the final PDD i.e., <math>EG_{PI,m,y}</math>, <math>FC_{NG,m,y}</math>, <math>FC_{DFO,m}</math>, <math>NCV_{NG,y}</math>, <math>NCV_{DFO,y}</math>, <math>EC_{PI,TESTIAC}</math>, the titles are in line with methodology, data units are correctly expressed, the descriptions are appropriate, the sources are clearly referenced, the values are correct, they have been verified and correctly justified, and measurement methods described in compliance with the methodology/tools, correct references to standards if applicable, the accuracy defined if possible and the QA/QC further detailed and appropriate.</p>	CAR 15	OK
<b>B.7.3 Implementation of the Monitoring Plan</b>				
B.7.3.1 Do the means of monitoring of each of the	DR	Yes, all the parameters included in the plan comply with the	CAR 15	OK

VALIDATION REPORT  
DEWA Chiller Station L

parameters included in the plan complies with the requirements of the methodology?		requirements of the methodology.		
B.7.3.2. Is the measurement equipment described and deemed appropriate?	DR	<p><b>CAR 16: Measurement equipment shall be further described (i.e. Technical specifications, etc) and evidence provided to the validation team.</b></p> <p>Measurement equipment has been further described and appropriate evidence has been provided.</p> <p><b>CAR 16 is closed.</b></p> <p>Yes, the measurement equipment is described appropriately.</p>	CAR 16	OK
B.7.3.3. Are procedures identified for maintenance of monitoring equipment and installations? Are provisions regarding the calibration intervals included in the monitoring plan?	DR	<p>The monitoring plan considers procedures and provisions for the maintenance of monitoring equipment and installations as well as provisions regarding the calibration requirements.</p>	CAR 15	OK
B.7.3.4. Is the measurement accuracy addressed and deemed appropriate? Are procedures in place on how to deal with erroneous measurements or lack of data?	DR	<p><b>CAR 17: The measurement accuracy shall be addressed and procedures for dealing with erroneous measurements or lack of data shall be developed.</b></p> <p>Measurement accuracy has been further described and procedures with erroneous measurements or lack of data are included in section B7.2 of the final PDD.</p> <p><b>CAR 17 is closed.</b></p> <p>The calibration requirements are addressed and deemed appropriate if applicable. Procedures are in place on how to deal with erroneous</p>	CAR 17	OK

VALIDATION REPORT  
DEWA Chiller Station L

		measurements or lack of data.		
B.7.3.5. Is the monitoring Plan sufficient to ensure the verification of a proper implementation of the monitoring plan?	DR	Yes, the monitoring plan is considered to be sufficient.	CAR 15 CAR 16 CAR 17	OK
<b>B.8. Date of completion of the application of the baseline study and monitoring methodology and the name of the responsible person(s)/entity(ies)</b>				
B.8.1. Is there any indication of a date when the baseline and monitoring was determined?	DR	Yes, the date of completion of the application of the baseline and monitoring methodology was 24/07/2012.	OK	OK
B.8.2. Is this consistent with the time line of the PDD history?	DR	Yes.	OK	OK
B.8.3. Is the information on the person(s)/entity(ies) responsible for the application of the baseline and monitoring methodology provided consistent with the actual situation?	DRI	Yes.	OK	OK
B.8.4. Is information provided whether this person / entity is also considered a project participant? <i>(Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies (CDM-NM)</i>	DR	Yes, the PDD indicates that the person/entity determining the baseline and monitoring methodology is not a project participant.	OK	OK



<b>C. DURATION OF THE PROJECT ACTIVITY / CREDITING PERIOD</b>				
<b>C.1. Duration of the project activity</b>				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	DR	<p><b>CL 6: Evidence of the technical lifetime of TESTIAC system, as well as the evidence required for using the "Tool to determine the remaining lifetime of equipment" shall be provided.</b></p> <p>Appropriate evidence has been provided.</p> <p><b>CL 6 is closed.</b></p> <p>Yes, the starting date of the project activity and operational lifetime are clearly defined and reasonable.</p>	CL 3 CL 6	OK
<b>C.2. Choice of the crediting period and related information</b>				
C.2.1. Is the assumed crediting period clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)? And, is the starting date of the crediting period corrected considered?	DR	<p>The starting date of crediting period is considered 01/07/2012 or the date of registration, whichever is later.</p> <p><b>CAR 18: A fixed 10 years period with a starting date in 01/07/2012 or the date of registration, whichever is later has been assumed by the PP. The reasonableness of the crediting period chosen shall be demonstrated by means of the "Tool to determine the remaining lifetime of equipment"</b></p> <p>The reasonableness of the crediting period chosen has been demonstrated by means of the "Tool to determine the remaining lifetime of equipment" and appropriate evidence has been provided.</p> <p><b>CAR 18 is closed.</b></p> <p>The starting date of the fixed 10 years crediting period has been updated to 01/01/2013, whichever is later. The starting date of the crediting period is correctly considered.</p>	CL 1 CAR 18	OK

<b>D. ENVIRONMENTAL IMPACTS</b>				
<b>D.1. Documentation on the analysis of the environmental impacts, including transboundary impacts</b>				
D.1.1. Has the analysis of the environmental impacts of the project activity been sufficiently described in the PDD?	DR	<p>According to the PDD, EIA is not required by the host Party for the project activity.</p> <p><b>CL 7: Evidence showing that EIA is not required shall be provided.</b></p> <p>Appropriate evidence has been provided.</p> <p><b>CL 7 is closed.</b></p>	CL 7	OK
D.1.2. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, has an EIA been approved?	DR	EIA is not required for the project activity	CL 7	OK
D.1.3. Will the project create any adverse environmental effects? Has any environmental impact identified as significant?	DR	No adverse environmental effects will occur as a consequence of the implementation of the project activity.	CL 7	OK
D.1.4. Are transboundary environmental impacts identified in the analysis?	DR	No transboundary impacts will occur as a consequence of the implementation of the project activity.	CL 7	OK
D.1.5. Does the project comply with any other	DR	There is no additional legislation affecting the project activity.	CL 7	OK

VALIDATION REPORT  
DEWA Chiller Station L

environmental legislation in the host country?				
<b>D.2. If environmental impacts are considered significant by the project participants or the host Party, please provide conclusions and all references to support documentation of an environmental impact assessment undertaken in accordance with the procedures as required by the host Party.</b>				
D.2.1. Have the identified environmental impacts been addressed in the PDD sufficiently?	DR	No adverse environmental effects are envisaged from the project activity.	CL 7	OK
<b>E. STAKEHOLDERS' COMMENTS</b>				
<b>E.1. Brief description how comments by local stakeholders have been invited and compiled</b>				
E.1.1. Have relevant local stakeholders been consulted prior to the publication of the PDD? Is the exact date of the consultation process included in the PDD?	DR	<p>Stakeholders' consultation process has been performed prior to the GSC and the date is clearly stated in the PDD. However, the PDD does not identify the local organizations/authorities and representative invited.</p> <p><b>CAR 19: A summary of the comments received and responses shall be described in the PDD and evidence of the stakeholder's consultation shall be provided to the validation team.</b></p> <p>A summary of the comments received and responses has been included in the final PDD and appropriate evidence has been provided.</p> <p><b>CAR 19 is closed</b></p> <p>Stakeholders' consultation process has been performed prior to the GSC and the date is clearly stated in the PDD. Relevant stakeholders have been consulted.</p>	CAR 19	OK
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	DR	<p>The PDD establishes that the stakeholders have been invited through a public announcement in a newspaper.</p> <p><b>CL 8: Evidence of the media used – announcement in the local</b></p>	CL 8	OK

VALIDATION REPORT  
DEWA Chiller Station L

		<p><b>newspaper – shall be provided to the validation team.</b></p> <p>Appropriate evidence has been provided.</p> <p><b>CL 8 is closed.</b></p> <p>Appropriate media have been used to performance the stakeholders consultation</p>		
E.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	A stakeholder consultation process is not required by regulations/laws in the host country.	CAR 19 CL 8	OK
E.1.4. Is the undertaken stakeholder process that was carried out described in a complete and transparent manner?	DR	The process is described in a clear and transparent manner.	CAR 19 CL 8	OK
<b>E.2. Summary of the comments received</b>				
E.2.1. Is a summary of the stakeholder comments received provided?	DR	A summary of the comments received has been included in the item E.2 of the PDD.	CAR 19	OK
<b>E.3. Report on how due account was taken of any comments received</b>				
E.3.1. Has due account been taken of any stakeholder comments received?	DR	Section E.3 of the final PDD states how the stakeholders' comments received have been taken into account.	CAR 19	OK

\*MoV/Ref: Means of Validation and references of background documents.

## ANNEX 2: CERTIFICATES OF QUALIFICATION VALIDATION AND TECHNICAL REVIEW TEAM

### CERTIFICATE OF QUALIFICATION

**Subject:** Validation and Technical Review Team for "DEWA Chiller Station L"

Madrid, 6<sup>th</sup> August 2012

Hereby I confirm the following records of qualification, according with AENOR internal instruction "Validation, Verification and Certification of Clean Development Mechanism (CDM) project activities" IE-DTC-039.07, and in relation with the validation process of the above mentioned project activity:

**Name:** Marcelino Pellitero Martinez

CDM Chief Validator: Yes

CDM Validator: Yes

CDM Chief Verifier: N/A

CDM Verifier: N/A

Technical Expert: No

Technical areas related with the project activity:

TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX);



José Luis TEJERA OLIVER  
CDM Operational Director

---

CERTIFICATES OF QUALIFICATION  
DEWA Chiller Station L

---

## **CERTIFICATE OF QUALIFICATION**

**Subject:** Validation and Technical Review Team for "DEWA Chiller Station L"

Madrid, 6<sup>th</sup> August 2012

Hereby I confirm the following records of qualification, according with AENOR internal instruction "Validation, Verification and Certification of Clean Development Mechanism (CDM) project activities" IE-DTC-039.07, and in relation with the validation process of the above mentioned project activity:

Name: **Fernando Segarra Orero**

CDM Chief Validator: Yes

CDM Validator: Yes

CDM Chief Verifier: N/A

CDM Verifier: N/A

Technical Expert: Yes

Technical areas related with the project activity:

TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX);



José Luis TEJERA OLIVER  
CDM Operational Director

---

CERTIFICATES OF QUALIFICATION  
DEWA Chiller Station L

---

**CERTIFICATE OF QUALIFICATION**

**Subject:** Validation and Technical Review Team for "DEWA Chiller Station L"

Madrid, 6<sup>th</sup> August 2012

Hereby I confirm the following records of qualification, according with AENOR internal instruction "Validation, Verification and Certification of Clean Development Mechanism (CDM) project activities" IE-DTC-039.07, and in relation with the validation process of the above mentioned project activity:

**Name:** Luis Robles Olmos

CDM Chief Validator: Yes

CDM Validator: Yes

CDM Chief Verifier: N/A

CDM Verifier: N/A

Technical Expert: Yes

Technical areas related with the project activity:

TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX);



José Luis TEJERA OLIVER  
CDM Operational Director

---

CERTIFICATES OF QUALIFICATION  
DEWA Chiller Station L

---

## **CERTIFICATE OF QUALIFICATION**

**Subject:** Validation and Technical Review Team for "DEWA Chiller Station L"

Madrid, 6<sup>th</sup> August 2012

Hereby I confirm the following records of qualification, according with AENOR internal instruction "Validation, Verification and Certification of Clean Development Mechanism (CDM) project activities" IE-DTC-039.07, and in relation with the validation process of the above mentioned project activity:

**Name:** M<sup>a</sup> Carmen Gonzalez Galan

CDM Chief Validator: Yes

CDM Validator: Yes

CDM Chief Verifier: N/A

CDM Verifier: N/A

Technical Expert: Yes

Technical areas related with the project activity:

TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar (COMPLEX);



José Luis TEJERA OLIVER  
CDM Operational Director