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# **GOLD STANDARD VALIDATION REPORT**

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**Artvin Coruh Elektrik Uretim Sanayi ve  
Ticaret A.S.**

**ARALIK HEPP**

**GS663**

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**SGS Climate Change Programme**

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<b>Date of Issue:</b>		<b>Project Number:</b>	
16-08-2011		CCP.VOL 0673	
<b>Project Title:</b>			
Aralik HEPP			
<b>Organisation:</b>		<b>Client:</b>	
SGS United Kingdom Limited		Artvin Coruh Elektrik Uretim Sanayi ve Ticaret A.S.	
<b>Publication of PDD for Stakeholders Consultation</b>			
<b>Commenting Period:</b>		20/04/2010 – 01/06/2010	
First PDD Version and Date:		Version 01, 16/04/2009	
Final PDD Version and Date:		Version 09, 26/07/2011	
<b>Summary:</b>			
<p>Kar-En Karadeniz Elektrik ve Uretim Ticaret A.S has commissioned SGS to perform the validation of the project: Aralik HEPP. The company was sold to ENERGO-PRO Guney Elektrik Uretim San. ve Tic. A.S. in April 2010 (<a href="http://www.energo-pro.com/?Template=OurGroupView&amp;RecordID=5&amp;LanguageID=1">http://www.energo-pro.com/?Template=OurGroupView&amp;RecordID=5&amp;LanguageID=1</a>) and renamed to Artvin Coruh Elektrik Uretim Sanayi ve Ticaret A.S /71/.</p> <p>Methodology Used: simplified baseline and monitoring methodology AMS I.D.</p> <p>Version and Date: Version 14, 17/07/2009</p> <p>The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the Gold Standard requirements.</p> <p>The report is based on the assessment of the project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, follow up actions (e.g. site visit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations.</p> <p>The report and the annexed validation describes a total of 31 findings which include:</p> <ul style="list-style-type: none"> <li>• 25 Corrective Action Requests (CARs);</li> <li>• 3 Clarification Requests (CLs);</li> <li>• 4 Forward Action Requests (FARs); and</li> </ul> <p>All findings have been closed satisfactorily.</p> <p>The project will be recommended to the Gold Standard Registry for registration.</p>			
<b>Subject:</b>		<b>Document Distribution</b>	
GS Validation			
<b>Validation Team:</b>		<input checked="" type="checkbox"/> No Distribution (without permission from the Client or responsible organisational unit)	
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<b>Technical Review:</b>		<input type="checkbox"/> Limited Distribution	
Date: 16/08/2011 Name: Dr. Jochen Gross			
<b>Revision Number:</b>		<input type="checkbox"/> Unrestricted Distribution	
<b>Date:</b>	<b>Number of Pages:</b>		
0	94		
1	158		

## Abbreviations

ACM	Approved Consolidated Methodology
ads	advertising
BE	Baseline Emissions
BM	Built Margin
BOT	Build-operate-transfer
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CL	Clarification Request
CM	Combined Margin
CO <sub>2</sub>	Carbon Dioxide
dB	Decibel, unit of acoustic pressure
DNA	Designated National Authority
DNH	Do no harm
DOE	Designated Operational Entity
DR	Document Review
DSI	State Hydraulics Department
EF	Emission Factor
EIA	Environmental Impact Assessment
EPDK	Enerji Piyasasi Düzenleme Kurumu
ER	Emission Reductions
FAR	Forward Action Request
FSR	Feasibility Report
GHG	Green House Gas(es)
GS	Gold Standard
GTE	Global Tan Energy
GWh	Giga watt hour
HCA	Host Country Approval
HEPP	Hydro Electric Power Plant
IETA	International Emissions Trading Association
IPCC	Intergovernmental Panel on Climate Change
IRR	Internal Rate of Return
kWh	Kilo watt hour
LA	Lead Assessor (SGS team)
LE	Leakage Emissions
LoA	Letter of Approval
LSC	Local Stakeholder Consultation
MDG	Millenium Development Goals
MoC	Modalities of communication
MoV	Means of Verification
MP	Monitoring Plan
MT	Monitoring Table
MVA	Mega Volt-Ampere
MW	Mega watt
MWh	Mega watt hour
NG	Natural Gas
OBS	Observation
OM	Operation Margin
PA	Project Activity
PDD	Project Design Document
PD	Project Description
PE	Project Emissions
PFA	Pre-feasibility assessment
PP	Project Participant
pSC	preliminary Stakeholder Consultation

RPM	Revolutions per minute
SCR	Stakeholder Consultation Report
SFR	Stakeholder Feet back Round
SP	Safeguarding Principle
TEIAS	Turkish Electricity Transmission Company
TL	Turkish Lira
UNFCCC	United Nations Framework Convention on Climate Change
VER	Verified Emission Reduction
WWF	World Wide Fund for Nature (founded as World Wildlife Fund)

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## 1. Validation Opinion

SGS United Kingdom Ltd has been contracted by Kar-En Karadeniz Elektrik ve Uretim Ticaret A.S. (changed its registration name to Artvin Coruh Elektrik Uretim Sanayi ve Ticaret A.S.) to perform a validation of the project: Aralik HEPP in Turkey. The Validation was performed in accordance with the Gold Standard (GS) v02.1 requirements and host country criteria as well as criteria given to provide for consistent project operations, monitoring and reporting.

By addition of renewable electricity generation capacity to the Turkish grid and the generation of electricity with hydro power, the project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In our opinion, the project meets all relevant host country criteria and all Gold Standard (GS) requirements. The project correctly applies the simplified baseline and monitoring methodology AMS I.D. version 14 valid 17/07/2009.

It is demonstrated that the project 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 total emission reductions from the project are estimated to be 177,618 t CO<sub>2e</sub> over a seven year crediting period during 01/05/10 to 30/04/17, averaging 25,374 t CO<sub>2e</sub> annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

The project will hence be recommended by SGS for registration with the GS registry.

Signature:

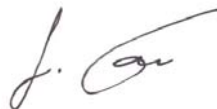


**Lead Assessor**

**i.A. Ralph Westermann**

**SGS Germany GmbH**

Signature:



**Technical Reviewer**

**i.A. Jochen Gross**

**SGS Germany GmbH**

## 2. Introduction

### 2.1 Objective

Kar-En Karadeniz Elektrik ve Uretim Ticaret A.S. (changed its registration to Artvin Coruh Elektrik Uretim Sanayi ve Ticaret A.S.) has commissioned SGS to perform the validation of the project: Aralik HEPP with regards to the relevant requirements for Gold Standard. The purpose of a validation is to have an independent third party assessment of the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with the host country criteria, as well as the GS specific 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 seen as necessary to provide assurance to stakeholders about the quality of the project and its intended generation of certified emission reduction (CER).

### 2.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the GS specific criteria. SGS has employed 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 consulting towards the Client. However, stated Clarifications (CL) and/or Corrective Actions Request (CAR) may provide input for improvement of the project design.

### 2.3 GHG Project Description

This validation assessment is presented for the first crediting period of Aralik HEPP, Turkey. The project uses the approved methodology AMS I.D, version 14 ("Indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories") (ref. 20). The project is in the Black Sea Region, Artvin City Province, Aralık town of Borçka district, which is in the north-east of Turkey. By generating electricity with a Run-of-River type hydro power plant the project will deliver electricity to the Turkish grid, avoiding the dispatch of an equal amount of energy produced by fossil-fuelled thermal plants to that grid.

### 2.4 The Names and Roles of the Validation Team Members

Assessment Team	Role
Ralph Westermann	Lead Assessor
Aslihan Cetin	Local Assessor
David Diaz	Financial Expert

Technical Review Team	Role
Sanjay Banerjee	Sectoral Expert
Jochen Gross	Technical Review

### 3. Methodology

#### 3.1 Review of GS-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project design document version 01 dated 16/04/2009 and the subsequent versions dated 30/11/2010, 03/03/2011, 09/05/2011, 08/06/2011, 22/06/2011, 30/06/2011, 07/07/2011, 26/07/2011 (final version 9). Only the versions listed in this report were provided by the PP for validation and have been checked by the assessment team during the validation process. The assessment is performed by trained assessors using a validation protocol attached as Annexure.

The PP has confirmed to the assessment team that the PDD and Passport has been uploaded to the GS registry on 18/08/2009, which is also affirmed by the GS pre-feasibility assessment /17./

The site visit was performed on 14/07/2009 by members of the assessment team and the results are summarized in the Validation Site Visit Summary Report, which is attached as Annex 1 to this document.

Local members of staff were also involved to confirm other statements in the PDD through review of documents. Key stakeholders were interviewed during the site visit (ref. 109).

#### 3.2 Use of the Validation Protocol

The validation protocol used for the assessment was designed in accordance with the GS v02.1 dated June 30<sup>th</sup>, 2009 and also CDM Validation and Verification Manual, Version 1.2 . It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation (reporting).

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Ref ID	Means of Verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex 02 to this report.

#### 3.3 Findings

As an outcome of the validation process, the team can raise different types of findings

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

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

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

The validation process may be halted until this information has been made available to the assessors' satisfaction. 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 GS requirements for registration.

Corrective Action Requests and Clarification Requests are raised in the draft validation protocol and detailed in a separate form (Annex 3 overview of findings). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and FARs.

### **3.4 Internal Quality Control**

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team. Findings can be raised at this stage and client must address them within agreed timeline.

## 4. Validation Findings

### 4.1 *Project Design Document including Project Description*

The title of the project Aralik HEPP identifies the voluntary project activity correctly. The project correctly applies the PDD template for SCC (PDD\_form02\_v03, valid since 22/12/2006). Some formal mistakes in the PDD like dead links, formal failures, copy failures were combined in **CAR#01**. In PDD version 04 /01f/ these failures were corrected and **CAR#01** was closed.

The first issuance of the project documentation in April 2009 GS version 2 was applicable and the v.2 document templates were used. In the pre-feasibility report GS states that the actual upload of the documents was done 18/08/2009. The GS version 2.1 was valid from 01/08/2009 and therefore the version 2.1 templates should be used. This point was left open by the PP and **CAR#30** was raised. With the revised documentation from April 2011 the version 2.1 templates for the GS passport and the ODA template was used. Because the GS comments were referring to the LSC report template also **CAR#30** was left open. The PP submitted a mail communication with GS that it is not necessary to update the LSC template also because for retroactive projects the LSC meeting is not required. **CAR#30** was closed.

The project activity is listed correctly under scope 1 Energy Industries (renewable / non-renewable) of the UNFCCC and A1 of the GS: renewable energy project. With the information provided in the PDD and verified during the site visit it is clearly described how the project will reduce GHG. Generation license /68/ was provided as official approval of the project title as required.

The description of the small-scale project activity in section A.2 of the PDD was confirmed by the assessment team during and following the site visit. At the project site construction work has already started which is in line with the project time line in the PDD. It could also be verified that no alteration of existing facilities took place and that the project is not a debundled component of large-scale project.

The technical description contains some ambiguities and missing references and **CAR#03** was raised. The generation license included in the pre EIA shows a total capacity of 16.02 MW instead of 12.41 MW as stated in the PDD vers. 02. The reference for the total length of the conveyance line was missing. The calculation of natural gas savings and US Dollar savings was not clear and the evidence for the employment of 200 people during the construction phase was missing.

The PP provided an updated generation license /68/. The document was accepted. The PP states that the conveyance line is nearly all tunnel and gives the FSR /47/ with page number as reference. The reference was checked and found correct. The calculation of natural gas savings and US Dollar savings was added in PDD vers. 03 /01d/. The references /12/23/ from TEIAS are reliable. The calculation was verified. The statement about the employment of 200 people during the construction phase was deleted. **CAR#03** was closed.

The project consists of an upstream intake structure, a water conveyance system (channel and tunnel, total length approx. 2,767 m), a penstock (length approx. 0,54 km, diameter 1.2 m) and a power house. The intake structure is located on the upstream portion of the Aralik Creek. A weir with adjustable gates controls the flow of water to the intake structure through a regulator.

The conveyance line leads to a fore bay, which releases water to penstock which serves the two turbines with a design flow capacity of 5.0 m<sup>3</sup>/s, taking advantage of the natural height drop of the river. The turbines are horizontal pelton type with a power capacity of 6.205 MWe each. Following power generation, the water is discharged into the Aralik Creek through a tail water channel. The generation license /68/ shows the annual electricity generation of 45.15 GWh which is also in accordance with the feasibility report /47/.

The description in section A.2 of the PDD /01i/ covers all relevant elements of the project activity accurately as confirmed by the site visit and the check of the attached documents.

### 4.2 *Gold Standard Project Eligibility*

#### 4.2.1 *General Eligibility*

The pre-announcement statement in GS passport is filled out correctly. From the site visit and the review of the documents no contrary findings were found.

The PP did not include a first consideration of carbon crediting to the milestones table in PDD vers. 02 /01b/. Therefore this point was added to **CAR#04**. In PDD vers. 03 /01d/ the board's decision for consideration of carbon revenue was added and the evidence for this board decision /53/65/ was provided. The board's decision page /53/ was accepted as suitable evidence that carbon credits were considered at an early state of the project activity and **CAR#04** was closed. For the clarification why the first page of the board decision /65/ shows a date from 1993 **CL#05** was raised. The explanation of the PP that this page is the first page of the board decision book which shows the date of the establishment of the company was accepted and **CL#05** was closed.

The provided board decision from 20/10/2006 is dated five months after the issuance of the generation licence and one month before the issuance of the feasibility report. This shows that the consideration of the carbon credits took place at a very early state of the project activity and backs up the statement of the PP in the GS passport that no pre-announcement of the project activity exists.

#### **4.2.2 Host country check**

The host country for the project activity is Turkey. Turkey passed legislation in Parliament on 05/02/2009 to ratify the Kyoto Protocol but does not have a quantitative emission reduction limit yet and it is likely not to have it until 2012. As such, Turkey, in the interim period, continues to be eligible for voluntary emission reduction projects.

The coordinates in the PDD were given for the weir as 41°23'53"N 41°44'06"E and for the powerhouse as 41°23'36"N 41°41'49"E. These coordinates have a good accordance to the coordinates measured during the site visit.

#### **4.2.3 Project activity gases check**

The only relevant and applicable emissions reductions that will be monitored by the project activity are due to the emission of carbon dioxide in the baseline scenario. This is in line with the eligible criteria of GS version 2.1.

#### **4.2.4 Project Type**

The category of the project is correctly defined as type I in the PDD section A.4.2, renewable Energy projects with the category I.D, grid connected renewable energy projects with the sectoral scope 1, energy industry – renewable sources. This project type is applicable for GS ver.2.1 validation according Annex C of the GS toolkit.

The special applicability criteria for hydro power projects in annex C of the GS toolkit are discussed in annex 6 of the PDD ver. 02 /1b/. This discussion was found insufficient in several points and **CAR#13** was raised.

Clear statements and evidences for several quantitative or qualitative statements in the table are missing (e.g. minimum flow sufficient, no lateral rivers, existence of flood plains, depth of fish passage, social impacts etc.). In section sediment management point 4, the reader gets the impression that sediments are accumulated below the weir until the next flood season. The protection of animals should also be directed on aquatic animals (turbines, water intake).

The PP revised his comments in PDD ver. 03 and 04 (references /01d/01f/). A reference for 10% minimum flow was added /101/ and found valid. In the justification section of the passport two springs are mentioned with a reference to FSR/pre EIA. The PP states that the creeks referred are connected after the weir so there is nothing related to connectivity of lateral rivers in that respect. Project weir is very small so it will not have any impact in that respect. A clarification has been added to table c.2. This explanation was in line with the observation during the site visit and was accepted. The PP added a clear statement that no floodplains exist between dam and power house. This can be confirmed by the site visit and pictures from the site. The PP added a statement about the expropriation of a derelict house near the weir. This description is in line with the observation during the site visit and the provided expropriation decision /48/. The statement about depth of fish passage has been removed and it has been indicated that an expert assessment will be conducted to ensure functionality. In relation to sediment accumulation the PP states that this is also not preferred by project owner. The statement was corrected and the specified passage was deleted. After the evaluation of these points **CAR#13** was closed out.

The final version of the filled out checklist according annex c of the toolkit in annex 6 of the PDD ver. 08 (reference /01m/) was assessed as reasonable, backed up with reliable references and in line with the project design described in the documentation and as assessed during the site visit. All relevant environmental effects are addressed and suitable mitigations measures installed.

#### **4.2.5 Project size/ scale check**

Aralik HEPP is a small scale project with a production capacity of 12.41 MW and therefore below the threshold of 15 MW which is defined as the upper level for small scale projects. This production capacity is also confirmed by the updated version of the generation licence dated 06/03/2008 (reference /68/).

According to the check of the project documentation and the site visit Aralik HEPP is not part of a debundled larger project complex. This was confirmed by a check of the list of generation licences from the EPDK website (<http://www2.epdk.org.tr/lisans/elektrik/lisansdatabase/verilentesistipi.asp>) dated 10/07/2011 which shows that the current owner of the project activity Artvin Çoruh Elektrik Üretim San. ve Tic. A.Ş. does not possess other generation licences. According to the CDM Glossary debundling may occur if there is another small scale project activity by the same project participants, in the same project category, registered within the previous 2 years and within a range of 1 km of the proposed project activity. Since the first point is not fulfilled the project activity is not a part of a debundled project.

#### **4.2.6 ODA check**

The ODA declaration GS version 2.1 is included in GS passport ver.04 /02f/. After the GS pre-feasibility report the version of the ODA template was not updated and **CAR#30** was raised. In the revised version of the GS passport the ODA template version 2.1 was used and this point of **CAR#30** was closed.

#### **4.2.7 GS project stream check (CDM/JI/VER)**

The project activity was only submitted for registration to the Gold Standard VER stream. The project activity is not registered under UNFCCC and was not rejected by the UNFCCC according to a project check on the UNFCCC website conducted on 10/07/2011 for the last time.

The project activity does not involve facilities under the EU ETS.

#### **4.2.8 Project cycle check**

The PP included a project milestone table in the PDD ver. 02 /01c/. Several evidences for the presented milestones were missing and **CAR#04** was raised. The open issues were: the date of the loan agreement could not be found in the document, the evidences for the start of construction, the commissioning date, the first consideration of carbon credits were missing and the date of the feedback from the GS pre-feasibility assessment was wrong. The PP provided the complete document "loan agreement" /80/ and the date 10/04/2008 could be confirmed. The PP provided the construction permission /66/ as an evidence for the start of construction. This is generally accepted. But the provided document is difficult to read. The PP provided a better copy of the construction permission /81/. The date is now readable and 21/03/2008 could be confirmed. In PDD version 08 (reference /01m/), the PP defined the start of the project activity as the date of the equipment purchase agreement for turbines and generators 27/07/2007 (reference /15/), which was accepted as conservative. The commissioning approval /67/ was provided as an evidence for the commissioning date. The evidence was accepted because usually the power plants start with electricity generation shortly after receiving the commissioning approval. The date of the first consideration of carbon credits was added to the table. The evidence /53/ was accepted. After these corrections **CAR#04** was closed.

The time frame according to the table Aralik Project Milestones was assessed as correct and in line with the actual project proceedings and the requirements. All relevant dates were checked by references and found valid (references /68/53/47/14/15/66/81/80/03a/17/18/02l/).

Previous announcement check – The pre-announcement statement in GS passport is filled out correctly.

From the site visit and the review of the documents no contrary findings were found. The board decision from 20/10/2006 provides evidence that the consideration of carbon credits took place before the date of the investment decision and the start date of the project activity 27/07/2007.

Retroactive registration – The project construction started at the 21/03/2008 and was dated before the upload of the documents to the GS registry. The project activity is due for a retroactive registration. The pre-feasibility report of GS /17/ was issued and the project documentation was changed according to the GS comments.

Crediting period - The crediting period is defined with 7 years in the project PDD. It starts at 01/05/2010 and ends at 30/04/2017. This is in line with the project timetable. The commissioning date of the project was given as 30/04/2010 and proved by the approval for commissioning /18/.

### 4.3 Project Boundary

All relevant project elements are included correctly in the project boundary in section B.3. of the PDD as Aralik Weir, penstock, conveyance line and Powerhouse. The transmission is owned by TEIAS as shown by the system connection agreement /57/ and therefore not included in the project boundary. This definition was confirmed by the project documentation like FSR and pre EIA /46/47/ and the results from the site visit. The diagram of the project activity is added as figure 2 on page 6 of the PDD.

All relevant sources and GHGs for baseline and project scenario are correctly included within the project boundary. Methane emissions from the reservoir are correctly excluded.

Leakage is not accounted for according to the methodology.

There is no indication, that there are any further project emissions greater than 1% of the expected annual emissions reduction, that are not covered in the methodology.

Summing up the project boundary is defined correctly in section B.3. of the PDD. It comprises the physical project site (for details see Section 4.4).

### 4.4 Baseline and monitoring methodology

Methodology is AMS-I.D. Grid connected renewable electricity generation, ver. 14 /20/ (valid from 30/07/2009 onwards). According GS rules the valid methodology at the date of the upload of the documents to the GS registry is valid for the validation.

In line with the methodology the baseline for the construction of new hydro power project has been defined as the kWh produced by renewable generation unit, multiplied by an emission coefficient, calculated according the “Tool to calculate the emission factor for an electricity system”. The identification of the most likely baseline scenario is in compliance with methodology AMS I.D v 14 /20/.

Together with the baseline methodology the following tools were used: “Tool for assessment and demonstration of Additionality” version 5.2 and “Tool to calculate the emission factor for an Electricity system” ver. 1.1. These versions are the valid documents at the time of the upload of the project documents to the GS registry.

As shown by officially data /21/22/23/24/ from the grid operator, historically (from 2005) and projected for the future (until 2020), there is a clear increase in peak load and consumption (and thus demand) of electricity. This can only be supplied by an increase in thermal capacity or the project activity.

The correctly selected Emission factor is reflected in the combined margin (CM) calculations according to the “Tool to calculate the emission factor for an electricity system” version 1.1. Most recent data about the Turkish grid, inclusive energy imports, are presented in Annex 3 to the PDD and supported with links to official information sources. The used data are sourced from TEIAS (Turkish Grid Operator) or IPCC and are considered to be highly reliable.

The sources do not state uncertainties. Considering the “official” quality of the data sources this seems reasonable.

The selected methodology is applicable for the project activity because the project is a grid connected renewable electricity generation project, it does not involve combined heat and power generation and its installed power capacity of the project is below 15 MW.

In version 02 of the PDD not all eligibility criteria of AMS I.D. ver. 14 (reference /20/) are addressed and **CAR#06** was raised. Statements to the missing applicability criteria 4 and 5 were added in PDD version 03 (reference /01e/). That the project does not involve an addition of a new unit or the modification of an existing

unit can be confirmed by the site visit. The applicability criteria about the reservoir for HEPPs are addressed first in AMS I.D v.15. Since version 14 is valid for this project the applicability criteria do not have to be discussed in detail. The comment on page 7 of the PPD version 04 was accepted as correct and sufficient. **CAR#06** was closed out.

The discussion in the PDD version 08 lists the following point.

- The Aralık HEPP is a grid connected renewable electricity generation project; this is sufficiently demonstrated by project design, feasibility report /47/ and generation permission /68/.
- The project does not involve combined heat and power generation activity; this is sufficiently demonstrated by project design, feasibility report /47/ and generation permission /68/.
- Installed power capacity of the project is below 15 MW and it does not cause any new reservoir formation. this is sufficiently demonstrated by project design, feasibility report /47/ and generation permission /68/.
- Project activity does not involve addition of new unit; this is sufficiently demonstrated by project design, feasibility report /47/ and generation permission /68/.
- Project activity does not seek for retrofit or modify an existing unit; this is sufficiently demonstrated by project design, feasibility report /47/ and generation permission /68/.

#### **4.5 Additionality**

The used methodological tool to demonstrate additionality is the “Tool for the demonstration and assessment of additionality” (Version 05.2) /6/. This tool is not recommended by the applicable methodology AMS-I.D. Grid connected renewable electricity generation, ver. 14 /20/ but is a suitable and conservative approach to demonstrate the additionality and therefore accepted. With the application of this tool the requirements of the “General Guidelines to SSC CDM methodologies” ver. 12 attachment A (version 06 ) of and appendix B of the “Simplified modalities and procedures for small-scale clean development mechanism project activities” ([https://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC\\_guid05.pdf](https://cdm.unfccc.int/Reference/Guidclarif/ssc/methSSC_guid05.pdf)) /05/ are also covered.

The steps of the tool were not followed in a transparent manner initially. The investment analysis and the common practice analysis left open questions. Therefore **CAR#07** and **CAR#08** were raised. The barrier analysis was omitted after the first version of the PDD /01a/, which was accepted according to the methodology.

For further details of investment analysis and common practice analysis and the closure of **CAR#07** and **CAR#08** see section 4.5.3. and 4.5.5. The whole assessment of additionality is reported under the following paragraphs.

##### **4.5.1 Additionality Tool**

To assess the additionality the project follows the requirements of the “Tool for the demonstration and assessment of additionality” (Version 05.2) /6/ which is the current version at the time of the upload of the project documents to the GS registry.

##### **4.5.2 Identification of alternatives**

The considered alternatives in the PDD ver 9 are in line with the proposals of the methodology. The alternatives are:

- 1.) Proposed project not undertaken as a VER project activity
- 2.) Continuation of the current situation-supply of equal amount of electricity in the grid
- 3.) Construction of a thermal power plant with the same installed capacity or the same annual power output.

For scenario 1 it is shown in the investment analysis that it is not the most profitable. See discussion of the investment analysis in 4.5.3.

Scenario 2 is the baseline scenario.

Scenario 3 would provide an equal amount of electricity with comparable quality, properties and application areas. It is the most realistic alternative scenario for the electricity market in Turkey as far as private investors are concerned, due to in shorter commissioning time periods, lower initial investment requirements and use of conventional technologies. On the other hand the generation licence according to Turkish law only provides the

right to build a hydro power plant with the documented specifications. Thus, the project owner has no realistic option for other renewable energy sources than to build a hydro power plant. Concentration of the further discussion on scenario 1 is therefore justified.

All above mentioned alternatives comply with the listed applicable national legislations /115/116/117/118/119/.

#### 4.5.3 Investment analysis

From the options in sub-steps 2a of the additionality tool v 5.2 the PP has chosen the benchmark analysis and the equity IRR as the suitable financial indicator. The selection was appropriate because the project will benefit also from the sale of the produced electricity and the PP has no alternative project at hand to compare the investment costs.

The date of the investment decision was given as the 21/07/2007 which is the date of Equipment purchase agreement /15/. This was accepted because the signing of the agreement can serve as the date when the final decision for the investment in this project was taken.

The investment analysis was not in accordance with the “Guidance on the Assessment of Investment Analysis” and **CAR#07** was raised.

- a. An explanation is missing why the residual value after 46 years is zero from the perspective of the project proponent.  
 The PP explained that the license is issued for 49 years from date of issuance (15/06/2006) therefore operational lifetime becomes 45 years after commissioning (30/04/2010). When the license period is completed, the plant is delivered to government at no cost. Therefore, value for project owner is “0” A statement is available in section c.1.2 for lifetime of the plant.  
 This statement was accepted as in line with the Turkish regulations. The Point was closed.
- b. The benchmark was calculated by a sample of Turkish government bonds in the time frame 17.04.2007 until 04.09.2007. The date of the investment decision was identified as the date of the purchase agreement for the turbines 27.07.2007. Five values of the samples are dated after the date of the investment decision.  
 The PP excluded 5 bond rates issued after investment decision date. The new sample collection was accepted as dated correctly before the time of the investment decision. The point was closed.
- c. The PP should add the Euro Bond rates of the time before the investment decision as a backup for the Turkish government bond rate.  
 The PP stated that €bond have not been added as GS also makes similar comments when €bond is used. Instead, a reference has been given to WB study referred by GS and a discussion has been added to demonstrate that even if we consider WB study (15%) as reference, project equity IRR is below the benchmark as agreed with GS.  
 The references of the PP to the world bank documents with benchmarks of 15 % and 16% to 20 % were accepted as reliable sources. This benchmark was partly not available at the time of the investment decision but the discussion of the PP that even with the lowest defined benchmark of 15% the project will not be financial attractive was accepted because the IRR is still below this benchmark. The point was closed.
- d. The PP should provide evidence for estimation of staff cost and grid fee. Please also include information on the calculation of VAT.  
 The PP provided for staff cost, payroll from another project of project owner which shows monthly payment as 30,634TL. For Grid fee, the document “operating cost” includes two invoices for zero residual item correction factor and reference for distribution fee VAT is not paid for import items. Since there is no local manufacturer for turbines, it has been assumed that no VAT will be paid for EM equipment.  
 Staff + Contingency – Value is in line with other Turkish projects from this time frame  
 Grid loss factor – Based on TEIAS data from 2006  
 Residual Balance Adjustment coefficient – Based on 2007 values from www.pmum.teias.gov.tr  
 Distribution System Charge – Based on TEDAS data from 2007 (reference /103/).  
 Transmission System Charge - Based on EPDK data /104/.  
 The references were accepted as highly reliable official or independent sources. The point was closed out.

- e. The date of the investment decision is one year later than the issuing date of the feasibility report. The PP should provide evidence that the cost figures from the feasibility report are still valid at the time of the investment decision.  
 The PP stated that the FSR is dated november 2006 where as signature date is July 2007 hence much less than one year. It is not common to update figures in such a short time. FSR investment figures includes contingency which is for this type of issues. Plus, realized costs have been submitted which shows that FSR figures are conservative.  
 It can be confirmed that the investment decision was taken 7 to 9 months after the finalization of the FSR. This period is short enough to accept that the financial figures from the feasibility report were still valid at the time of the investment decision. The comparison of the cost figures for the equipment, with the realized costs, according to the equipment purchase agreement, showed that these figures were conservative and reliable. The point was closed..
- f. The PP should provide evidence for the historical trends of tariffs for electricity on open markets in the time frame from the investment decision until two years later.  
 The PP provided a reference with the trends for the marcet prices from January 2007 to October 2010. It was shown that the electricity tarif in the time before the investment decision varies in a range between 100 and 140 TL/MWh which is related to sales price of somewhere between 5,5 €ct and 7,7 €ct. Based on the fact that hydro power plant is a must run power plant and can not synchronize the electricity production with the market conditions the assumption to rely on the guaranteed price of 5,5 €ct is acceptable and the variation range of 35 % for the electricity income in the sensitivity analysis reflects the situation of the Turkish electricity market at the time of the investment decision. The point was closed.
- g. PDD v02 page 9: Sample of bond rates includes values that are younger than 27.07.2007 (date of investment decision).  
 The PP corrected the sample of bond rates and all data were issued before the date of the investment decision. The point was closed.
- h. PDD v02 page 9: Please add references for table 3.  
 References /67/47/68/97/75/73/74/98/ are added to table 3. References were checked and found valid. The point was closed.
- i. PDD v02 page 10: Please provide evidence for expected VER price.  
 The PP provided a reference from 2009 /98/ based on the data of 2008. Also other sources from 2008 or 2007 showed a wide variety of prices so that the assumed price in the PDD is acceptable regarding the fact that it is of less importance for the demonstration of the additionality. The point was closed.
- j. PDD v02 page 10: Link 13 shows only main page. Selection of parameter for 2010 is not running.  
 The PP provided a print-out copy of the data selection. With reference /77/ the cost data from January 2007 to July 2007 and later were provided. The data were accepted as reliable. The point was closed.
- k. PDD v02 page 11: Value for +35% fluctuation for electricity income not correct. Please correct.  
 The value for +35% fluctuation for electricity income was corrected in PDD. The figures in the file "26\_confidential Aralik Financial Model\_22112010.xls" has also to be corrected. After correction of the file the point was closed.
- l. PDD v02 page 12: For discussion of outcome of sensitivity analysis please refer precisely to the highest values in the sensitivity analysis and compare with benchmark.  
 A text passage with the discussion of the best case scenario was added. The discussion is reasonable and backed up with evidence. The point was closed.

All updates were accepted and all points and subsequently also **CAR#07** was closed.

Table for the evaluation of input figures for the investment analysis:

Input figure	Reference	Evaluation
Government bond rates	Document istihl.xls /25/ from <a href="http://www.tcmb.gov.tr">http://www.tcmb.gov.tr</a>	Highly reliable official reference. Sample collection and calculation of mean is correct.
Country risk premium	ctryprem06.xls /27/ from <a href="http://www.stern.nyu.edu">http://www.stern.nyu.edu</a>	Highly reliable third party reference

Installed capacity	Official generation licence /68/	Highly reliable official reference
Grid connected output	Official generation licence /68/	Highly reliable official reference
Capital investment	Feasibility report /47/	Official approved reference.
Corporate tax rate	reference from a website of the union of financial counsellors and accountants  <a href="http://www.mmmb.org.tr/default.aspx?pid=24826&amp;nid=16297">http://www.mmmb.org.tr/default.aspx?pid=24826&amp;nid=16297</a>	Highly reliable third party reference
Loan	loan agreement /80/	Reliable third party document.
Operating costs	Tariffs and Invoices for Grid Fee, Staff cost from similar plants of project owner (see below)	See below
Expected tariff	renewable energy law /100/	Highly reliable official reference
Expected VER price	State of Voluntary Carbon Market 2007 /99/	Reliable third party document.
Maintenance costs	Estimation of 0.5% of investment costs from <a href="http://hydropower.inel.gov/hydrofacts/plant_costs.shtml">http://hydropower.inel.gov/hydrofacts/plant_costs.shtml</a>	Reliable third party document.
Grid fee	Correct calculation based on distribution system charge, residual balance adjustment and transmission system charge (see below)	See below
Staff costs	Value is in line with similar Turkish projects from this time frame (GS635 Selimoglu 9.3 MW HPP)	Validated and registered GS project activity
Grid loss factor	Based on TEIAS data from 2006	Highly reliable official reference. Conservative estimation from the data 08.2006 to 06/2007
Residual Balance Adjustment coefficient	Based on monthly 2007 values from <a href="http://www.pmum.teias.gov.tr">www.pmum.teias.gov.tr</a>	Highly reliable official reference
Distribution System Charge	Based on TEDAS data from 2007 /103/ issued January 2007	Highly reliable official reference
Transmission System Charge	Based on EPDK regulation no. 1029 /104/ dated 21/12/2006	Highly reliable official reference

The figures, calculations and references were checked and found valid and accessible at the time of the investment decision.

The benchmark was calculated from Turkish Government Bond Rates. The benchmark was calculated from 15 values for Government Bonds in the time frame from 17/04/07 to 17/07/07 just before the date of the investment decision. The source for bond rates is published by Turkish government and therefore highly reliable. The calculation was correct. The selection of government bond rates as a benchmark is in line with the tool for the demonstration and assessment of additionality and suitable for the chosen financial indicator. The average of the bond rate sample was 17.53 %. The risk premium was taken from the website [www.stern.nyu.edu](http://www.stern.nyu.edu) as 4.5% for Turkey. The benchmark in the PDD was calculated correctly as 22.03%. The PP also refers to World Bank

documents about financial benchmarks in Turkey for renewable energy production. A World Bank document issued 2009 shows a benchmark of 15%. The PP argues that even with this lower benchmark issued two years later that the investment decision the project would be additional.

The PP provided an excel sheet for the calculation of the IRR /26/26a/26b/. The excel sheet contains working formulas and has a clear and transparent structure. PP corrected the earlier version of the excel sheet /26a/ and used lower figures for the grid fee based on historical data from official Turkish sources. This change leads to an increase of the IRR from 9.36% to 13.93%. After a detail check of the source data for the grid fee this change was accepted as correct.

The input figures for the IRR calculation were taken correctly from the FSR.

The estimated yearly electricity production for the project activity was taken from the generation licence /68/ and is therefore in line with the "Guidelines for the reporting and validation of plant load factors" version 01.

The IRR calculation was based on the guaranteed price of 5.5 €/kWh according to the renewable energy law /100/. The free market prices can change significantly according to seasonal changes or economic conditions. The PP argued that the average tariff for December 2008 and January 2009 has fluctuated between 4.7€/ct and 7.7€/ct. The PP also provided a reference with the trends for the market prices from January 2007 to October 2010 /77/. It was shown that the electricity tariff in the time before the investment decision varies in a range between 100 and 140 TL/MWh which is related to sales price of somewhere between 5,5 €/ct/kWh and 7,7 €/ct/kWh. The argumentation of the PP that a reliable investment calculation should be based on the guaranteed price of 5.5 €/ct was accepted based on the fluctuations of the free market prices and the involved uncertainties for the investment planning and loan granting. The possible influence of a calculation with assumed spot market prices was included in the variation range of the sensitivity analysis discussed below.

The calculation of the IRR to a value of 13.93% was found correct and in line with the "Guidance on the Assessment of Investment Analysis" version 2.1 which was the valid version at the time of submission of the documents to Gold Standard.

For the sensitivity analysis the PP varied the investment costs and the operating costs for plus and minus 10% and the electricity income for plus and minus 35 % to relate to expected rising electricity prices. This range equals a maximum price of 7.43 €/ct/kWh which was evaluated as an optimistic estimation of a possible price development at the time of the investment decision. It was not found necessary to divide the variable electricity income in price and production because both factors will have the same effect on the IRR. The calculations and ranges for the sensitivity analysis were checked and found valid and reasonable. For the variation of the electricity income the highest IRR value of 21,92 was calculated, which is still below the determined benchmark.

Summing up it could be demonstrated that the project activity is from the financial point of view clearly less attractive than other alternatives without additional revenues from carbon credits. The project is assessed to meet the additionality criteria. The conclusion that the project is in every case unattractive is accepted and the additionality argument confirmed by the assessment team.

#### **4.5.4 Barrier analysis**

The PP deleted the additional barrier analysis from PDD version 01 /01a/ after the comments in the GS pre-feasibility assessment. A further discussion of barriers was evaluated as not necessary and not required.

#### **4.5.5 Common practice analysis**

For the demonstration that the project activity is not common practice in Turkey the PP argues in the PDD version 2 /01b/ that the share of power production by HEPPs is much lower than the total generation from fossil fuels and that this share decreased permanently during the last years. This statement was backed up by statistical evidences from TEIAS /21/22/23/.

The explanation of the PP for this development reflects the change in the economic policy in Turkey which encourages private companies to invest in the energy sector. The private companies prefer to invest in thermal power plants and not to the same extent in HEPPs. This is demonstrated by data from TEIAS that shows the increase in installed capacity from private companies from 1996 to 2007 is much higher for thermal power plants than for HEPPs.

For more detailed information about the existing run-of-river HEPPs the PP provided a list of operational private owned run-of-river HEPPs in Turkey (Annex 7 of PDD ver. 2 /01b/) from an official TEIAS source and provided, for most of these plants, information via web links and TEIAS statistics about their original operational concepts like autoproducers, build-operate-transfer projects or VER projects. For some of the plants the generation licences were switched to independent power producer afterwards according to the law no. 4628. The list and the references were checked and found valid in the PDD ver. 8 /01m/.

The list of comparable project activities from the TEIAS source is highly reliable. Therefore Turkey is selected as the defined region for comparable projects which is accepted as a conservative approach.

The distinctions between the project activity and the similar projects are the project implementation as autoproducers or build-operate-transfer projects.

The statement of the PP that autoproducers, which are not fully liable to market conditions as well as build-operate-transfer projects in which the risks are shared between lenders and sponsors, face different conditions as independent power producers was accepted and found valid.

In the common practice analysis evidence for the statement of the owner of Tahta HEPP was missing and the share of generation capacities for private generation companies that were neither BOT nor autoproducers in relation to the total generation capacity of 0.003 % was not correct. For these two points **CAR#08** was raised. In PDD ver. 03 /01d/ the figure for the share of generation capacities for private generation companies is corrected to 0.03 %. This was evaluated as correct. The link for Tahta HEPP was corrected and the new link provide the evidence that the plant is owned by BM Holding A.S. and that Özgür Elektrik Üretim is a subsidiary of the Holding. **CAR#08** was closed.

The statement of the owner of Tahta HEPP as given in the PDD could not be confirmed but the demonstration that only one private owned hydro power plant was planned and implemented in a comparable way was assessed as sufficient demonstration that the project activity is not common practice in Turkey.

The list and the references were checked and found valid in PDD version 4 /1g/. The conclusion of the PP that at the end of 2007 only 0,03% of the total installed capacity was produced by private owned run-of-river HEPPs which have an original licence as independent power producer, and no information could be gathered about financial incentives or VER revenues, was based on reliable evidences, checked and accepted.

In summary the geographical boundary of the common practice analysis is Turkey and the TEIAS source about operational run-of-river HEPPs is highly reliable. The main distinction between the majority of the private owned HEPPs and the project activity, namely the operational concepts as autoproducer or BOT (build-operate-transfer) projects, was confirmed by checking the different references (mainly websites) provided in the PDD /01m. The argumentation of the PP that private owned run-off-river HEPPs which are planned and operated as independent power producers, are not common practice in Turkey was accepted.

#### **4.5.6 Conservative Approach baseline scenario determination**

The selection of the baseline is determined by the methodology AMS I.D v 14 /20/ and therefore the most conservative approach.

#### **4.5.7 Technology transfer and/or technology innovation**

Although the demonstration that the project activity is not common practice the technology of run-of-river hydro power plants is not a new technology in Turkey and it is unlikely that this project activity contributes to a substantial technology transfer or innovation in Turkey.

### **4.6 GHG emission reduction estimation**

The approved simplified baseline and monitoring methodology AMS I.D., version 14 /20/ was used for calculating the baseline emissions. For the calculation of the combined margin CO<sub>2</sub> emission factor the methodological tool (Version 01.1) "Tool to calculate the emission factor for an electricity system" /07/ was used.

The calculation of the combined margin CO<sub>2</sub> emission factor was done according to the required steps of the tool.

For step 1 the justified choice of the national grid as the relevant electric power system is in line with the requirements of the tool and the national grid in Turkey can not be divided into subsystems. The choice was accepted and the total installed capacity and the gross generation of the grid for 2007 were confirmed according to the sources from TEIAS /21/22/. For the electricity import the emission factor was taken as zero according to the requirements of the tool /07/.

For step 2 the PP chose option A, the simple OM for the calculation of the emission factor. It was shown in table 4 of the PDD version 2 /01b/ that the share for low-cost/must run resources is much below 50% of the total grid generation in the five most recent years /22/. The ex ante option was selected for the simple OM method. For the calculation the data of the years 2005, 2006 and 2007 were used.

The submission of the documents to GS was 09/2009. Therefore the data for 2008 should have been already available and **CAR#09** was raised.

The PP commented that the documents have been uploaded to registry on 18/08/2009. The 2008 data vintage were not available at that time. TEIAS published data usually by November or October earliest for previous year. Therefore, the data vintage is left as 2007 being the most recent year.

This statement was confirmed by checking the document history of the excel files on the TEIAS website (<http://www.teias.gov.tr/istatistik2009/index.htm>) the statement of the PP that the documents were published in October or November could be confirmed. The data vintage is correctly chosen and **CAR# 09** was closed out.

For Step 3 the calculation of the OM emission factor option C was chosen. The statement of the PP that no power plant specific data are available could only be verified in regard to the TEIAS website. Due to the large amount of power plants in the national Turkish grid a data acquisition for option A is not realistic. The necessary data for option C are available.

The data for the net electricity production were calculated with overall gross/net relation percentages. This form of calculation leads to an overestimation of the net electricity production of the baseline sample, because the consumption of plant auxiliaries of fossil power plants is higher than for the plants that are not included in the baseline calculation. This overestimation leads to a lower OM emission factor and is therefore a conservative approximation.

Due to a not covered GS comment from the pre-feasibility assessment /17/ in PDD ver. 02 **CAR#10** was raised. In the PDD vers.02 /01b/ on page 17 the Formula (1) was still unreadable. The formula was corrected in PDD version 04 /01f/ and **CAR#10** was closed.

The net calorific values for the fossil fuels were calculated from the heating values from references and from the fossil fuel consumption amounts from TEIAS sources cited in the PDD /01m/.

The efficiency values in sheet "Generation efficiencies" of the CM calculation file are taken from reliable TEIAS source for the efficiency of Turkish power plants. The calculations of the average values in the excel sheet are correct. The approach to calculate the efficiency factors was found in line with the "Tool to calculate the emission factor for an electricity system" /07/ and is accepted.

For the combined margin EF the PP used the lower 95 % interval of the IPCC values /01b/. This was accepted as correct, conservative according to the methodology and based on reliable sources.

The EF<sub>grid</sub>, OM, y was calculated to 646 t CO<sub>2</sub>/GWh /01b/. This value was evaluated as correct calculated and backed up by reliable data.

For step 4 the argumentation of the PP for selecting option b to identify the cohort of power units to be included in the build margin is reasonable and correct. The selection of the cohort is based on reliable TEIAS data sources cited in the PDD and was accepted.

For step 5 the BM EF is calculated as the generation-weighted average emission factor of a sample of power plants "m" for a specific year. The formula is applied correctly from the tool. The calculation results in an EF<sub>grid</sub>, BM, y of 478 tCO<sub>2</sub>/GWh /01b/. This value was checked and found correctly calculated.

For Step 6 the calculation of the combined margin was done according to the given equation in the tool. After the correction of all points of CAR#10 the calculated EF<sub>grid</sub>, CM, y was 562 tCO<sub>2</sub>/GWh /01b/. This calculation was evaluated as correct according to the methodology and backed up by reliable data sources

The calculation for the emission reductions were checked and found correct. The yearly emission reductions were calculated on the basis of the CM emission factor of 562 tCO<sub>2</sub>/GWh and the yearly electricity production taken from the generation license of 45,150 MWh. The yearly emission reduction was calculated correctly as listed in the PDD in A.4.3 and b.6.4 /01b/ of 25,374 tons of CO<sub>2</sub>e.

#### 4.7 Sustainable Development

After the first check of the DNH assessment in PDD version 02 /1b/ several points have to be clarified and **CL#14** with the following points was raised.

1. SP8: The discussion of health and safety concerns is not sufficient.
2. SP10: The discussion about affected habitats should be more substantiated.
3. SP11: Please extend the discussion about corruption.
4. GS passport v02 page 13: For safeguarding principle 2 the reference to the expropriation decision is missing. The entry in the expropriation document page 10 line 3, in which a house is mentioned, has to be explained if resettlement had happened.

The PP provided a revised discussion in GS passport /02f/.

1. SP8: The discussion of health and safety concerns is more detailed and refers to the work with high voltages. The discussion and the mitigation measures were evaluated as suitable for the project activity and accepted.
2. SP10: The discussion was revised. The reference to the pre-EIA is correct and reliable. A further discussion for biodiversity is detailed in the SD matrix. According to the observations during the site visit this kind of river habitats are quite common in the region.
3. SP11: The explanation of the PP that corruption is illegal in Turkey and a criminal issue which is difficult to secure unless by a criminal investigation was evaluated as sound and correct. Further discussion and evidences about this safeguarding principle would not be requested any more.
4. GS passport v02 page 13: For safeguarding principle 2 the PP referred to the expropriation decision in his discussion and explained that the expropriated house belongs to the project manager. This was confirmed by checking the expropriation decision.

All points were closed and **CL#14** was closed out.

The project conforms to the GS safeguarding principles. All project risks for breaching the principles were assessed with low. These assessments were based on sound reasoning and reliable sources. In most cases the PP refer to the binding international conventions and agreements signed by Turkey. This line of argumentation was accepted.

In the following, we give a short overview over the safeguarding principles, the references and the evaluation assessment:

SP 1: Ratification of European Convention on Human Rights is correct and accepted as a base for the evaluation of a low risk for breaching the safe guarding principle.

SP2: No resettlement took place for the project activity. That was verified by the expropriation document /48/ and by the observations during the site visit.

SP3: No critical cultural heritage is located in the project area according to the pre EIA /59/. This was confirmed during the site visit.

SP4: The ratifications of ILO 87 and 98 conventions by Turkey are correct and accepted as a base for the evaluation of a low risk for breaching the safe guarding principle..

SP5: The ratifications of ILO convention 29 and 105 by Turkey are correct and accepted as a base for the evaluation of a low risk for breaching the safe guarding principle..

SP6: It is correct that Turkey is a party of IPEC since 1992 and ratified ILO convention 138 and 182. The assessment was accepted.

SP7: It is correct that Turkey has ratified ILO convention 100 and 111. The assessment was accepted.

SP8: This principle is also assessed with low but a mitigation measure is defined to ensure that the workers are trained and necessary safety equipment will be provided. The assessment and the mitigation measure were evaluated as suitable for the project activity and accepted.

SP9: The risk of a threat to human health by falling into the channel, was assessed as low because as a mitigation measure fences were build around the weir. Assessment and mitigation measure were evaluated as suitable for the project activity and accepted. The project has no risks of threat to the environment. The possible impact on the habitat is discussed in the sustainability matrix.

SP10: No critical habitats as defined are located in the project area. This can be confirmed by the pre EIA /58/ and by the results of the site visit.

SP11: The statement that Turkey has ratified several conventions on bribery and corruption including OECD and UN conventions is correct and accepted as a base for the evaluation of a low risk for breaching the safe guarding principle..

For two safeguarding principles the PP has identified low risks and has defined mitigation measures. The assessments of the PP about the risks were reasonable and appropriate to the possible violation. The mitigation measures were suitable for the identified risks and were accepted. The mitigation measures were transmitted to the monitoring plan as pointed out in section 4.8.

All impacts have been considered and the outcomes are in accordance with the data from the project documentation /1h/2j/3a/, the FSR /47/, the pre EIA /59/ and the site visit.

#### **4.7.1 Sustainable development assessment**

The first analysis of the sustainable development indicators have revealed several open points which are addressed in **CAR#15**.

1. GS passport v02 page 15: Indicator Other Pollutants: Waste and sewage management not included. The regulation for oil disposal has to be named and provided.
2. GS passport v02 page 15: Indicator Biodiversity: Expert study not included as a monitoring plan.
3. GS passport v02 page 17: SD matrix. For indicator Water quantity/quality waste water is missing as a parameter.
4. GS passport v02 page 17: SD matrix. The baseline for the parameters has to be defined for all parameters.
5. GS passport v02 page 20: Indicator Livelihood of the poor. The number of locally recruited staff is not a suitable parameter.
6. GS passport v02 page 23: Justification for water quality and quantity. The expression firm flow has to be explained. Where does the flow rate of 2.5 m<sup>3</sup>/s comes from, which is the basis for the calculation of the minimum flow for turbine operation. In section 2.1.4 in FSR only 0.1 m<sup>3</sup>/s of water is mentioned.
7. GS passport v02 page 23: Justification for water quality and quantity. A statement about minimal flow, which mentions the definition of minimal flow, the relevant regulation, who and how it will be measured and the control of the data is missing.
8. GS passport v02 page 24: Justification for parameter Soil condition. The regulation dated 02/09/1997 has to be provided as a document or by a reference link. The regulations for the disposal of waste have to be named and provide the document as a hard copy or via a reference link. The last sentence in the section is incomplete.
9. GS passport v02 page 24: Justification for parameter "Other pollutants". Only noise is discussed. Dust emissions have also to be discussed with a reference to the pre-EIA with page number. Reference for "Solid waste control regulation" is missing. Regulations for disposal of waste oil have to be named and provided.
10. GS passport v02 page 25: Justification for parameter Biodiversity. Discussion about amount of minimum flow regarding share and total amount is missing. The expert statement has to be added to the monitoring tables.

11. GS passport v02 page 26: Justification for parameter Quality of Employment. Discussion about training updates is missing.
12. GS passport v02 page 27: Justification for parameter Quantitative Employment and income generation. An estimation or the actual share of locally employed people is missing.

The PP revised the SD matrix in the GS passport ver. 04 and 05 (reference /02i/ and /2j/) with the following changes.

1. Indicator Other Pollutants: Waste management is included. Sediment management is included under the indicator soil condition. In the justification section, the PP refers to the regulations for control of dangerous wastes, for petroleum and waste oil. The regulation for the control of dangerous wastes published in the official gazette no 22387 and circular about oil wastes and used oil published in official gazette no 2240-5249 and 4473-7756, were verified. The point was closed.
2. Indicator Biodiversity: The explanation of the PP that the monitoring will be defined after the expert study was finalized was accepted as reasonable. To assure that the monitoring will be adopted according to the results of the expert study FAR#32 was raised. The point was closed.
3. SD matrix. For indicator Water quantity/quality waste water was added as a parameter. The point was closed.
4. SD matrix. The addition of the baseline for tech. transfer is accepted as suitable for the project activity and the parameter. The baselines for soil erosion and sediment passage were added. The point was closed.
5. Parameter "number of locally recruited staff" was omitted. Parameter definition is now in line with GS toolkit annex I. The point was closed.
6. Explanation for firm flow added. The flow rate of 2.5 m<sup>3</sup>/s is the maximum capacity of the turbines. This part of the justification section is clear now and has a reasonable statement that the effects of the plant for the river flow are reduced to a 60% of the year. The point was closed.
7. Justification for water quality and quantity. Added discussion about minimum flow is clear and sufficient. The point was closed.
8. The no. of the official gazette in which the regulation was published was provided. The regulation was checked and found valid. The Point was closed.
9. The added discussion about dust emission is clear and sufficient. The regulation for "Solid waste control regulation" was issued in official gazette no. 20814 and found valid. The regulations for disposal of waste oil were already checked in point 1. The point was closed.
10. Justification for parameter Biodiversity. The added discussion about amount of minimum flow is clear and sufficient. The expert statement is added. The point was closed.
11. The explanation that safety training will be repeated if necessary was accepted with the condition that the assessment of necessary renewal trainings will be checked during the first verification. This point was added to FAR#31. For CAR#15 the point was closed.
12. Justification for parameter Quantitative Employment and income generation. The estimation about the actual share of locally employed staff has been added. The point was closed.

All points were closed and **CAR#15** was closed out.

**CAR#29** was raised for the clarification why the construction of the transmission line was not covered in the SD matrix. This issue was already discussed and closed **CAR#18** and subsequently **CAR#29** was closed also.

In the following a short summary of the sustainable development indicators, the references and the evaluation assessment is given:

Air quality

The relevance to MDG 7.A and 7.B is correct as checked by <http://www.mdgmonitor.org>. The parameter definition of SO<sub>2</sub> and NO<sub>x</sub> /49/ is in line with the Annex I of the GS toolkit version 2.1. The baseline is referring to the SO<sub>2</sub> and NO<sub>x</sub> emissions by fossil fuel combustion which is reasonable and accepted. The positive scoring is accepted because the reductions for the mentioned emissions are evident.

#### Water quality and quantity

The definition of the securing of minimal flow and the waste water management as mitigation measures, is in line with the FSR and other reliable project documents /47/46/101/. The definition of the parameter “amount of water released and disposal of waste water” are clearly related to water quantity and water quality, considering that the waste would be released into the channel. The baseline definitions are logical. The neutral scoring is accepted because the mitigation measures are evaluated as sufficient to neutralize negative effects.

#### Soil condition

The definition of the mitigation measures of disposal of excavation wastes and sediment management at the weir, are in line with the project documentation /46/47/ and were accepted. The parameters “excavation waste, soil erosion and sediment passage are accepted although only erosion is clearly meant in Annex I of the GS toolkit version 2.1, but unregulated disposal of excavation waste and sediment accumulation also alters the soil quality in relevant area. The baseline definitions are logical, all parameters will not be changed at all without the project activity. The neutral scoring is accepted because the mitigation measures are evaluated as sufficient to neutralize negative effects.

#### Other pollutants

As mitigation measure the storage, treatment and disposal of waste is defined. As parameters solid and liquid wastes, dust and noise generation during construction and operation phase are defined. This is in line with Annex I which refers directly to noise and includes all other pollutants that are not already mentioned. This is in line with the FSR and the pre-EIA /46/47/. Relevant dust and noise generation will only occur during the construction phase. The baseline definitions are logic, all parameters will not be changed at all without the project activity. The neutral scoring is accepted because the mitigation measures are evaluated as sufficient to neutralize negative effects.

#### Biodiversity

The defined mitigation measure “Securing minimum water depth in fish passage for migration” is accepted. The corresponding parameters minimum flow, water depth for fish migration are no direct parameters for biodiversity but in regard to the project scale suitable to determine the effect on biodiversity of the projects. The selection is in line with the project documentation /46/56/ and was accepted. The baseline is definitely the situation with the natural flow of the river as described in the PDD. Because it is difficult to determine the effectiveness of the fish passage and the minimum flow for the biodiversity the PP added a third party study on this issue in the monitoring plan. This approach was accepted as the results of the study will show clearly if the mitigation measures were effective. The neutral scoring is accepted because the mitigation measures are evaluated as sufficient to neutralize negative effects.

#### Quality of employment

The defined parameter “number of certificates for security trainings” and the defined mitigation measure “health and safety trainings for operation and maintenance for the technical staff” are relevant parameters for the quality of employment for the project activity and in line with annex I of the GS toolkit version 2.1 which refers to labour conditions. The baseline was defined as no certificates issued which were accepted. The neutral scoring on the basis of this mitigation measure was accepted.

#### Livelihood of the poor

The reference to the MDG target 1.A is correct. The defined parameter poverty alleviation and voluntary contributions are in line with annex I of the GS toolkit version 2.1. The voluntary contributions in general support the living conditions for the people in the community /11/ and were summarized under this indicator. This approach was accepted. The decision of the PP to score this indicator neutral, although the voluntary contributions would have a positive aspect on the community, was accepted because the measurement would be difficult and not only related to poor people.

#### Access to affordable and clean energy services

The defined parameter “fossil fuel replaced” is in line with annex I of the GS toolkit version 2.1 and was accepted. The discussion of the baseline and the effect on the parameter is justified and backed up with evidence /32/. The PP decided to score the parameter neutral although a positive effect would be expected.

The conservative scoring of parameters is accepted as long as the minimum positive scoring of the main categories is fulfilled.

#### Human and institutional capacity

The defined parameter is in line with annex I of the GS toolkit version 2.1 and was accepted. The PP stated that he would expect a certain positive impact of the project on the parameter. The decision to score the indicator neutral was accepted because the effect was assessed as very small and difficult to measure.

#### Quantitative employment and income generation

The reference to the MDG target 1.B is correct. The defined parameter “payment made to staff” was addressed in the monitoring plan as “number of locally recruited staff”. This has to be adapted. The parameter is in line with the annex I of the GS toolkit version 2.1 and was accepted. Because it is planned that local people will be employed the positive scoring of the indicator was accepted.

#### Balance of payments and investment

The reference to the MDG target 8.D is correct. The parameter currency saving for imported fossil fuel is correctly quoted from annex I of the GS toolkit version 2.1. The discussion about the baseline and the effects of the project are reasonable and were accepted /70/ and the positive scoring was evaluated as justified.

#### Technology transfer and technological self-reliance

The reference to the MDG target 8.F is correct. The defined parameter “expenditures for equipments” is correctly quoted from annex I of the GS toolkit version 2.1. The equipment will be imported. The PP stated that the project will bring modern technology to Turkey. Due to the fact that there are several existing hydro plants in Turkey the neutral scoring of the indicator was accepted.

In the GS passport ver.08 /02k/ the detailed impact assessment was found accurate and complete.

The project boundaries for the sustainable development parameters were chosen suitable for the selected parameters. For every indicator the PP has defined suitable parameters which represent the status of the indicator.

The scoring of the indicators is reasonable and backed up with evidences. No indicator was scored negative, three were scored positive and nine were scored neutral.

The main categories 1 and 3 were scored positive in total and therefore the GS requirement for the scoring of the indicators is fulfilled.

## **4.8 Application of Monitoring Methodology and Monitoring Plan**

In the first version of the GS monitoring plan several inconsistent points were found and the following CARs were addressed.

There was no monitoring plan for quantitative income generation added. The scoring of the indicator is switched to neutral, but a stakeholder comment for this issue was raised and therefore a monitoring plan is necessary and **CAR#20** was raised.

The PP added the quantitative income generation to the monitoring plan in the GS passport /02f/ and changed the definition of the parameter to locally recruited staff. **CAR#20** was closed out.

**CAR#21** was raised for the following points.

1. The voluntary contributions of the PA to the local communities were not added into a monitoring plan.
2. The stakeholder comment disappearance of water streams was not added to a monitoring plan
3. The regulation which requires 10% minimal flow was not named and provided by link or hard copy.
4. In monitoring plan no.2 the total amount of water should be added.

The PP revised the monitoring plan in the following GS passports /02f/02h/02j/.

1. The PP opened a monitoring plan for the voluntary contributions to the local communities of the PA. For every voluntary contribution a way of monitoring was defined in monitoring table 11, GS passport. The

monitoring by stakeholder statements once after the end of construction was found sufficient for the contribution which has been provided. The point is closed

2. For the disappearance of the water streams monitoring table no. 12, GS passport has been opened. Due to the fact that the GS comment is difficult to relate to any identified impacts this simple monitoring approach was accepted.

3. The link to the regulation /101/ which requires 10% minimal flow on page 18 was updated. The referenced document was found valid. The point was closed

4. In monitoring table no. 2, GS passport the total amount of minimum flow is correctly defined with 150 l/s. The point is closed.

All points were closed and **CAR#21** was closed out.

For a further clarification of the monitoring method for the parameter minimal flow **CL#22** was raised. The PP states that the PA will install a gauging station and the calculations and flow records will be submitted during the verification. This approach is accepted as sufficient. The monitoring frequency for checking the disposal records is understood in the way that each disposal record will be checked continuously after delivery. This approach is accepted and **CL#22** was closed.

The monitoring of the parameter excavation waste /02d/ does not include disposal documents and permissions and **CAR#23** was raised. In the revised GS passport /02f/ the point that permissions and records of excavation disposal will be monitored after the end of construction was added. This was accepted as a reliable base for monitoring and **CAR#23** was closed.

In the monitoring plan for the indicator “other pollutants” the storage of used oil was not mentioned /02d/ and **CAR#24** was raised. The PP added the storage of used oil to the monitoring plan and defined a continuous monitoring interval. Together with the explanation that the oil change will only be done every few years and there will be only short-term storage of oil at the facility, this approach was accepted as applicable and **CAR#24** was closed.

For the monitoring of the adequacy of the mitigation measures for maintaining the current level of biodiversity, the PP had to refer to the regulation which defines a minimum flow of 10% and had to add the independent third party study about the functionality of the fish passage and the sufficiency of the minimal flow to the monitoring plan. For these points **CAR#25** was raised. In the revised GS passport /02h/ the link was provided as already pointed out in **CAR#21** and the expert study was added to monitoring table no.4, GS passport. **CAR#25** was closed.

In the monitoring table 7, GS passport /02d/ the definition of regular updates for trainings was missing and **CAR#26** was raised. The PP states that the regular updates can not be defined at this point of the project implementation. This was accepted for the validation and **CAR#26** was closed. Subsequently **FAR#31** was raised to check if a suitable assessment of the PA is available for the necessity of regular qualification refreshments.

In GS passport v02 page 34, monitoring table 6, the reference for the gas price is not correct and **CAR#27** was raised. In GS passport ver.04 the correct link was added and the historical NG prices were available. The statement of the PP in the monitoring table about the NG prices can be confirmed and **CAR#27** was closed.

For all non-neutral scored (positive) indicators monitoring tables were defined. See the assessment of the monitoring tables below.

#### MT No.1 Air quality

The indicator was scored positive and has to be monitored. For the monitoring of the parameters SO<sub>2</sub> and NO<sub>x</sub> the PP refer to emissions charges from the National Inventory of Turkey /49/. The source is reliable. The discussion of baseline, parameter situation and target is correct. The monitoring will be done yearly which is accepted as a suitable monitoring interval.

#### MT No. 6 Balance of payments

The indicator was scored positive and has to be monitored. The monitoring of the parameter currency saving by a yearly calculation of the currency savings from the amount of gas import that will be saved by the electricity

production of the project activity was accepted as reasonable and practicable. The related databases for the calculation are official TEIAS statistics and therefore accepted /70/44/.

#### MT No. 10 Quantitative Income Generation

The indicator was scored positive and has to be monitored. The monitoring of the parameter locally recruited staff by an annual check of the employment records was accepted as reasonable and practicable. The future target of the parameter is only referring to locally recruited staff. The target is defined as 4 local staff members.

For all necessary mitigation measures monitoring tables were defined. See discussion of the monitoring tables below.

#### MT No. 2 Water Quality and Quantity

Mitigation measures were defined in the SD matrix for minimal flow and waste water disposal. The future target of the parameter minimal flow was defined as minimum 10% of last ten years average (150 L/s). This will be done by flow measurements which were accepted as a suitable monitoring approach. To ensure that this minimal flow is sufficient an expert assessment for the adequacy of the minimal flow will be done. This additional check of the parameter target was accepted as additional back-up to check if the defined minimal flow is really sufficient. The continuous measurement of the data was accepted as an optimal monitoring frequency for this sensitive parameter. The monitoring of the second parameter waste water by a yearly check of the disposal records was accepted as suitable and sufficient.

#### MT No.3 Soil condition

Mitigation measures were defined for the parameters excavation waste, sediment accumulation and erosion and therefore the parameters have to be monitored. The monitoring of the parameter excavation waste by a site visit and the check of permissions and disposal records once after the completion of construction was accepted as sufficient and applicable for the parameter. The monitoring of the parameter sediment accumulation by site visits was also accepted because the accumulation of sediment can clearly be checked by eyesight. The yearly interval was accepted because temporary accumulations could be induced by natural fluctuations of the water flow and the long term development is important. For the same reasons the monitoring of the parameter erosion by yearly site visits was accepted. The relevant erosion for the project activity would be accumulation of sediment in precipitation water due to constructional elements of the facility. This kind of erosion can be spotted by regular visual checks.

#### MT No. 4 Biodiversity

A mitigation measure was defined for the parameter and therefore the parameter has to be monitored. The monitoring of the parameter functionality of the fish passage by continuous monitoring of the free flow was accepted as a first monitoring approach. The PP also added to this point, the external expert assessment which shall ensure that the future target of the parameter will be reached. If the expert study will find critical points the mitigation measures must be improved. This approach was accepted to improve the monitoring methodology of this point..

#### MT No. 5 Biodiversity

A mitigation measure was defined for the parameter and therefore the parameter has to be monitored. The monitoring of the parameter payment for plantation of new trees by a single check of the payment records after the end of the construction period was accepted as suitable and applicable. To check the accomplishment of this mitigation measure it was added to FAR#28

#### MT No. 9 Other Pollutants

A mitigation measure was defined for the parameter and therefore the parameter has to be monitored. The monitoring of the parameter "storage and disposal of oil and other wastes" by continuous checks of the disposal records and a visual check of the storage facilities for spillage risks was accepted as suitable and applicable.

#### MT No. 12 Livelihood of the poor

Voluntary contributions were promised to the local communities which have to be monitored. The monitoring of the parameter existence of natural spring by interviews with locals once after the construction is completed, was accepted. The point was raised as a comment by a local stakeholder. The PP states that he is not aware of any springs within the boundary of the project activity and can not see any risks that springs should vanish due to the project activity. Therefore the approach of the PP seems adequate to verify if the local stakeholders have experienced any negative effects on springs in the area by the project activity.

To follow up the mitigation measures for cut trees and the building of fences FAR#28 was raised.

Also for the two defined mitigation measures in the DNH analysis, monitoring tables were created.

**MT No. 7 DNH 8 Work Safety**

A mitigation measure was defined in the DNH for the safeguarding principle 8 therefore the parameter has to be monitored. The monitoring of the parameter “training records and equipment distributed” by a yearly check of training records and the provided equipment was accepted.

**MT No. 8 DNH 9 Precautionary Measures**

A mitigation measure was defined in the DNH for the safeguarding principle 9 therefore the parameter has to be monitored. The monitoring of the parameter “fences and security measures” by yearly site visits was accepted because the regular control of these facilities is quiet common and sufficient to monitor this mitigation measure. To check the accomplishment of this mitigation measure it was added to FAR#28

In the GS passport /02k/ twelve monitoring tables for the monitoring of sustainability parameters are listed. The monitoring is reasonable and in accordance with the other documentation and criteria.

The methodology AMS I.D ver. 14 /20/ only requires the monitoring of the net electricity supplied by the project activity to the grid. The measurement results shall be cross checked by records of sold electricity. Hourly measurement and monthly recording are required.

The PP monitors the net electricity generated  $EG_y$  and also monitors the fossil fuel used by the backup diesel generator  $FC_{i,j,y}$ , the installed capacity of the hydro power plant  $Cap_{P,j}$  and the area of the reservoir after the implementation of the project activity  $AP_j$ . The methodology requires for hydro energy power plants only the monitoring of the parameter  $EG_y$ . The other three parameters were monitored voluntarily. The monitoring of these parameters is only required by the large scale methodology ACM0002 which is not applicable for the project activity. The monitoring of project emissions from fossil fuel combustion is according AMS I.D. vers. 14 only required for geothermal power plants. The monitoring of these parameters was accepted as a conservative approach.

Some open points in the monitor plan were combined in **CAR#12**.

1. PDD v02 page 27: The exact location of the meters is not clear from the description in the PDD.
2. PDD v02 page 27: The failure range of the meter readings is not clear from the description in the PDD.
3. PDD v02 page 25: You monitor the values  $Cap_{P,j}$  and  $AP_j$  although you do not mention in the PDD the calculation of the power density of the power plant.
4. PDD v02 page 25: Monitoring table for  $AP_j$ . Statement that no reservoir is created is in contradiction to the measurement procedures.

The PP revised these points in the PDD ver.03 and 04 /01d/01f/.

1. The exact location of the meters is defined in the PDD ver. 03 as located in the powerhouse. The point was closed.
2. In version 04 of the PDD the typ of the meter and the accuracy class of S 0.5 is mentioned and the PP provided the data sheet for the meter /82/ and calibration protocols /83/. With this information the accuracy of the meter readings is sufficiently specified. The point was closed.
3. The discussion about the power density of the project is not requested in version 14 of the AMS I.D. Therefore the comment in the parameter table for  $AP_j$  is accepted as sufficient. The point was closed.
4. Monitoring table for  $AP_j$  is correct. The data will be collected yearly and checked during the verification. The point was closed.

All points were closed and **CAR#12** was closed out.

The monitoring concept for the parameter  $EG_y$  is based on the continuous recording of the two metering devices which are also used for the invoicing of the delivered net electricity generation. These metering devices are possessed by TEIAS. The monthly records of the readings and the cross check with the invoices from TEIAS can be verified. The metering devices have an accuracy class of 0.5S. The two meters are installed in parallel so it can be checked if the readings show differences. The calibration is done according to national regulation /84/ by TEIAS which is the state-owned network operator company. This is a deviation from point

17.c in the “General Guidelines to SSC CDM methodologies” but can be accepted due to the cross check of the two meters and due to the fact that the meters are possessed by TEIAS. The uncertainty level of the data collection by the electricity meters is defined by their accuracy class. This is in line with the technical specifications of the meters /82/ and the first calibration protocol from TEIAS /83/. The high quality of the data is ensured.

The installation of the metering devices could not be checked during the site visit because of the early state of construction. Therefore **FAR#11** was raised to check the meters during the first verification.

The monitoring of the parameter  $FC_{i,j,y}$  by equipment working hours multiplied with the average consumption of the diesel generator and the cross check of the yearly consumption by fuel invoices can be verified objectively. The monitoring of this parameter is voluntary and not required by the monitoring methodology.

The monitoring of the parameter  $Cap_{P,j}$  is based on the technical description of the supplier of the equipment and will be done yearly by site visits for any equipment changes. This approach can be verified. The monitoring of this parameter is voluntary and not required by the monitoring methodology.

The monitoring of the parameter  $AP_j$  by a calculation from topographical surveys of the maximum surface area of the reservoir can be verified by checking the topographical survey and comparing the information with the observations from the site visit. The monitoring of this parameter is voluntary and not required by the monitoring methodology.

The responsibility of the project management is clearly described in the figure 8 of PDD /02k/ and the additional text passage. The plant manager has the responsibility for the compliance with the GS monitoring plan and the PP Global Tan Energy has the responsibility for the emission reduction calculations and the preparation of the monitoring report. The accounting manager is responsible for keeping data about power sales, invoicing.

Summing up the monitoring plan is in compliance with §4 of Appendix B Marakesh Accords and the implemented procedures are sufficient to guarantee the quality of parameter monitoring. The uncertainty level is low because the data related to the emission factor is derived from official TEIAS sources. Quality control and quality assurance are implemented for the main variable “electricity generation” and hence for emission reductions calculations too.

#### **4.9 Pre-feasibility assessment**

The project activity has to apply for retroactive project cycle registration because the start of the construction at 21/03/2008 /66/ was dated before the upload of the documents to the GS registry. The documents were received by GS on 18/08/2009 /17/.

The pre-feasibility assessment was issued on 10/03/2010 and the last version with the comments of the PP was created 08/07/2011 /17a/.

The GS comments from the pre-feasibility assessment together with the answers from the PP and short summaries of the validation assessments are listed below.

##### **1. Eligibility**

**1.1 GS** Project type. According to the Gold Standard eligibility criteria, this project activity corresponds to renewable energy supply under the small-scale category. In addition to this, since the project is a hydro power project, it is required to comply with additional eligibility criteria as mentioned in Table C-2, Annex C to GSv2.1 Toolkit. Although Table C-2 was briefly mentioned on page 26 of the PDD, please note that these eligibility criteria have to be discussed in detail in the uploaded versions of the PDD and the Passport, including mitigation measures associated with the criteria, and should therefore be included and assessed by the DOE .

**PP** The table C-2 was included in revised PDD. Also mitigation measures, eligibility criteria etc have been defined in passport and references given in revised passport and PDD which have been submitted to DOE for validation.

**LA** The table C-2 in annex 6, PDD version 02 /01b/ was assessed as not sufficient and CAR#13 was raised. See discussion of CAR#13 and table C-2 in section 4.2.4.

- 1.2 GS Project location. Please explain to the DOE why coordinates given in section A.4.1.4 of the PDD are not consistent with the ones given in section D.1 of the Passport or please correct accordingly.
- PP The coordinates in passport have been revised
- LA The changed coordinates were now identical in PDD ver.02 /01d/ and GS passport /02b/ and in line with the results of the site visit.
- 1.3 GS Version of applied methodology. Please note that at time of first submission of documents to the Gold Standard Registry (18.08.2009), the applied version (AMS-I.D Version 13) of the methodology had expired (30.07.2009). Hence version 14 of AMS I.D. should be used. Please revise accordingly.
- PP AMS ver14 has been used in revised PDD.
- LA Methodology AMS-I.D version 14 was applied in PDD version 02 /01b/.
- 1.4 GS Installed capacity of the project activity. The PPs should clarify in the PDD as to how the installed capacity of project activity has been defined as 12.41 MW when two turbines of 6.45 MW are installed. If the installed capacity is based on capacity of generators then the power factor for these generators should be defined in the PDD. The DOE should validate that the installed capacity of the project activity is in line with the licensed capacity.
- PP The 12.41MWe( 2\*6.205 MW) was based on electrical capacity whereas the total allowed mechanical capacity was higher. The electrical capacity of turbines has been given in revised version of PDD. Both mechanical and electrical capacity is available in generation license.
- LA The value for the generation capacity of the turbines was corrected. The value of 2 x 6.205 MW is in line with the updated generation licence /68/.
2. Clarification on Additionality
- 2.1 GS- Consideration of carbon revenues. There is no clear information presented on serious consideration of carbon revenues in the decision to implement the project. Section B.5 of the PDD should clearly define the time line for project implementation including the information on date of carbon revenue consideration, date of ordering of project equipment, date of award of civil contract etc. The DOE should validate evidence of serious consideration of carbon revenues in the decision to implement the project as per latest version of CDM EB 'Guidance on the demonstration and assessment of prior consideration of the CDM'.
- PP The project owner has several other similar projects which are operational or under implementation and submitted to GS previously (Hamzali, Resadiye etc). The decision for carbon certification has been provided to DOE as evidence for consideration of carbon revenue.
- LA A board decision about the consideration of carbon revenues dated 20/10/2006 was provided and found valid. The date of the board decision was included in the project milestone table in the PDD vers. 03 /01d/.
- 2.2 GS Investment analysis. The DOE shall explain how it has validated that the benchmark is in line with the Additionality tool and the latest EB guidance 'Guidance on Guidance on the Assessment of Investment Analysis', especially considering that anecdotal evidence can be included but is not sufficient proof.
- LA The benchmark was calculated by a sample of Turkish government bonds in the time frame 17.04.2007 until 04.09.2007. The date of the investment decision was identified as the date of the purchase agreement for the turbines 27.07.2007. Five values of the samples are dated after the date of the investment decision. This point was included in CAR#07. For the validation of the benchmark please see section 4.5.3 of this report.
- 2.3 GS The PPs should include a table in section B.5 of the PDD listing all input values to the IRR calculation along with clear, retraceable sources. The DOE shall validate the IRR calculation in line with the EB guidance as well as the VVM, especially the power selling price (how conservative and realistic is the considered feed-in tariff, i.e. 5.5 Euro cent/kWh), investment cost, expected electricity generation, O&M costs, period of investment analysis etc.

PP The investment figures have been updated referring feasibility figures. Details of the figures have been given in financial model spreadsheets. There exists a table in section B.5 showing the figures. The 5.5 Euro Cent/kWh is very conservative as it reflects the maximum guaranteed price and since in practice lower prices are seen in the market. Detailed information has been added to PDD also. Even we assume average market rates, it is seen that project IRR is below benchmark value. HEPPs, use natural resource and fully dependent on precipitation which shows high fluctuation. Highest prices in the electricity market are observed in summer time where most of the rivers dry and cannot generate electricity. Hence, the weighted average price is lower for HEPPs compared to realized tariffs in Turkish electricity Market.

LA In PDD version 02 /01b/ a table with the input values for the IRR calculation was included. References were missing and this point was added to CAR#07. In the PDD version 08 /01m/ all references were provided and found valid and reliable. For the detailed assessment of the input values for the IRR calculation see section 4.5.3 of this report.

2.4 GS The DOE should check if the Power Purchase Agreement (PPA) has been signed. The DOE should also validate if the project activity will sell electricity in the open market and should crosscheck the historical trend of tariffs received by IPPs when they trade electricity in open market. It should be considered in financial evaluation of the project.

PP There is no power purchase agreement for the project. The electricity will be sold in open market and to eligible consumers.

LA The statement of the PP was accepted. A discussion of the prices of the electricity market was included in the PDD as requested by CAR#07. For the detailed assessment of this information see section 4.5.3 of this report.

2.5 GS Barrier analysis. The actual demonstration of additionality through a barrier analysis requires the demonstration of project specific barriers supported by convincing, available documentation to be checked and validated by the DOE, as per the CDM Validation and Verification Manual (VVM) guidelines.

LA Barrier analysis was deleted by PP

2.6 GS The 'High level of initial financing and long payback period' argument presented under financial barrier should be demonstrated for this specific project by discussing under what conditions a loan was secured (inc. the role of carbon revenues) and providing related documentation to the DOE (board decisions, letter from financiers, etc.). The DOE in its validation report shall clearly discuss how they have validated this barrier. This should include clear information on assessment of the available evidences and how these evidences demonstrate existence of a barrier.

LA Barrier analysis was deleted by PP

2.7 GS As per the VVM guidelines, issues that have a clear direct impact on the financial returns of the project activity cannot be considered in the barrier analysis but should be assessed by an investment analysis or should be removed. The 'Uncertainty in the flow regime' and 'Limited incentives for renewable energy' mentioned in the PDD are such issues and therefore cannot be retained for the demonstration of additionality through a barrier analysis.

LA Barrier analysis was deleted by PP

2.8 GS Please make sure to provide publicly available references to support the claims made about all barriers potentially retained in the demonstration of additionality.

PP Barrier analysis section has been removed from PDD for simplification.

LA Accepted as in line with the methodology and additionality requirements.

2.9 GS- Common practice analysis. The common practice analysis should be conducted based on a systematic analysis of all other similar project activities that are operational in the considered region. Projects are considered similar if they are in the same country/region and/or rely on a broadly similar technology, are of a similar scale, and take place in a comparable environment with respect to regulatory framework, investment climate, access to technology, access to financing, etc. When doing

so, please consider relevant criteria to define the region of investigation. The boundary of the region for common practice analysis should ideally be extended to the host country's geographical boundaries. In case other boundaries are defined then the selected choice should be justified. For e.g. justification may be based on difference in regulatory framework and investment climate in different regions within a country. The analysis should provide convincing argumentation explaining why the existing plants did not face the same barriers that the proposed project activity faces, along with supporting documentary evidence.

PP A detailed analysis of existing plants in Turkey at time of investment decision has been included in Revised PDD.

LA The common practice analysis in PDD version 02 /01b/ is based on a detailed analysis of all private owned hydro power plants in Turkey. The PP showed that most of the plants were implemented as autoproducers or BOT and face therefore different economic and financial needs. This new approach of the common practice analysis was evaluated as correct and conservative. For a detailed description see section 4.5.5. of this report.

### 3. Baseline and project emissions and emission reductions

3.1 GS Grid Emission Factor. The considered Combined Margin factor is much higher than what has been considered by other project activities recently submitted in Turkey. Please reconsider the evaluation of the grid emission factor while keeping in mind the GS fundamental principle of conservativeness, i.e. the most conservative option among equally convincing options shall be chosen (Weighted Average grid emission factor OR Combined Margin grid emission factor) and as part of the chosen option, parameters shall be given conservative values. The DOE shall explain in the final validation report how it has validated that the grid emission factor is in line with the Tool to calculate the emission factor for an electricity system, version 1.1, and whether it is conservative.

PP The grid emission factor has been revised as agreed with GS.

LA The revised calculation for the grid emission factor was checked and found correct and conservative.

3.2 GS- Power Plant Efficiency. In section B.6.2 of the PDD, reference has been made to the Environmental Map of Turkey, which is not a recent data source. Please use latest country data from authentic sources or use defaults from Tool to calculate the emission factor for an electricity system.

PP Plant efficiency data has been revised and the default factors have been used.

LA The PP used for the calculation the correct IPCC default values at the lower 95 % interval.

### 4. Sustainable Development Assessment: 'Do No Harm' Assessment & SD Matrix

#### 4.1 'Do No Harm' Assessment

4.1.1 GS Do no harm assessment. The level of risk involved for the Safeguarding Principles (SP) must be addressed with an additional level of detail, and must be easily reproducible by the DOE and other reviewers. Please therefore support the justification paragraphs of each of the 11 Principles with suitable reference sources, even if the risk is considered irrelevant. (For reference sources that are not easily accessible, please attach them to the Passport as an annex).

LA The PP provides references for the justification of SP assessment where possible. The statement for resettlement can be confirmed by the expropriation decision /48/ and the SP 8 and 9 were assessed transparently and convincing without reference sources. These assessments were accepted.

4.1.2 GS SP8. Please discuss the health and safety concerns in more detail in the SD Matrix.

PP Detail has been added for H&S issues

LA This point was addressed in CL#15. The PP specified the health and safety risks as working with high voltage. This was assessed as reasonable and definitely a major risk for the employees.

4.1.3 GS SP10. Please note that "critical habitats" should not be understood only as protected areas, but also habitats that are unique within the area affected by the project activity.

PP The discussion has been extended.

LA The discussion has been extended but the PP also points out that the in depth analysis of this issue was done in the SD matrix. Nevertheless the area round the project activity is neither protected in any kind nor unique within the area affected. These kinds of river habitats are quite common in the eastern Black Sea region of Turkey.

- 4.1.4 GS SP11. Please note that corruption is illegal in most countries, not only in Turkey, therefore please strive to find a more valid argument for why this specific project activity has a low risk of corruption, and as with the other SPs, provide an appropriate reference source to support that.

PP Corruption is a criminal issue. Being illegal will naturally reduce the risk. (I don't think that this within the scope of us or GS and actually i think this SP should not exist in SD matrix).

LA This line of argumentation of the PP was finally (after addressing this point in CL#15) accepted. An evidence that no corruption is involved in the project activity would be difficult to obtain unless opening a kind of criminal investigation. The reference of the PP was accepted as sufficient.

#### 4.2 SD Matrix.

- 4.2.1 GS Water quality and quantity. Please note that, in comparison to the baseline situation, water quantity will be impacted by the project activity, resulting in the need for a mitigation measure. Therefore, unless a proper justification and reference source can show otherwise, this indicator should be scored with "0" and not "+". Please also provide more evidence to show how the amount of water to be released continuously for ensuring aquatic life has been defined. If this is part of the pre-EIA, please kindly indicate which page.

PP The scoring for water quantity/quality was neutralized.

LA Neutralized scoring was accepted.

- 4.2.2 GS Other pollutants. Please include used oil generation and its management as well as waste and sewage management, as all these are impacts inherent to the project activity and therefore they should be considered in the matrix as well as the measures to ensure environmental integrity. Please include this also in the section of justification choices.

PP Waste and other pollutants are discussed in more detail in revised passport.

LA This point was not covered in the PDD version 02 /01b/ and therefore added in CAR#15. In the following versions of the PDD waste management and sewage management were included as parameters for the indicators "other pollutants" and "water quantity and quality".

- 4.2.3 GS Biodiversity. Please discuss with more detail fish migration and mitigation measures in more detail under this indicator. Also, please add justifications of the mitigation measure and please clarify how you will monitor the adequacy of the measure in maintaining the current level of biodiversity. It should also be clarified if implementation of project activity has resulted in felling of trees.

PP Fish migration is discussed in more detail.

LA This point was also not covered sufficiently in PDD version 02 /01b/ and was added to CAR#15. The PP backed up the parameter monitoring of the depth of the fish passage by a independent expert study about the functionality of the fish passage and the effects on biodiversity. This approach was accepted.

- 4.2.4 GS Livelihood of the poor. Please note that this indicator refers not only to changes in living standards, in terms of income, but also to things like improved access to health care services and access to proper sanitation facilities. In order to score this indicator as positive, please provide stronger justification how this project might, for example, help decrease the number of local people living below the poverty line or how proper waste management facilities have positively affected local livelihoods. For further assistance with scoring the indicators, please have a look at Annex I of the GSv2.1 Toolkit.

PP The scoring was neutralized for simplicity in monitoring.

LA Neutralized scoring was accepted.

- 4.2.5 GS Technology transfer and technological self-reliance. Please revise the assessment of this indicator to be in line with the guidance given in Annex I of the Toolkit. Has this technology not been applied before in similar circumstances (technical) in Turkey?

PP The technology transfer does not necessarily have to be in country level. If the technology is new at organization level, it will contribute and increase their capacity in that level. The project is the first hydro for the company. Regardless of the discussion, the scoring was neutralized for simplification.

LA Neutralized scoring was accepted.

## 5. Stakeholder Consultation

5.1 GS The term 'Local Stakeholder Consultation' should not be used in the context of retroactive projects. It is only applicable to projects applying for GS registration under the regular cycle for GSv2.1. Please therefore use the term 'Preliminary Stakeholder Consultation' to refer to this first meeting in the revised project documentation.

PP The terminology has been revised for stakeholder consultation.

LA In PDD version 02 this revision was not complete and CAR#16 was raised. After the correction in PDD version 03 no critical expression was found in the project documentation.

5.2 GS Please note that the category codes used in the Invitation tracking table of Section A are not used accurately in all cases. Please ensure that for the second round of consultation, the proper participant codes are used and that all relevant participants are invited as per Table 2.8, page 47, of the GSv2.1 Toolkit.

PP All relevant stakeholders are included in SFR meeting.

LA The list of invited stakeholder was missing in PDD version 02 /01b/ and the point was added to CAR#17. In PDD version 03 /01d/ not all category codes in the invitation tracking table for the stakeholder feedback meeting were correct. After the correction all category codes were addressed correctly and also the GS NGO supporters were added in the invitation table.

5.3 GS Please also ensure that the relevant regional offices (if available) of the 5 international GS NGO Supporters (WWF, REEEP, Greenpeace, HELIO International, and Mercy Corps) are invited to comment on the revised project documentation, as well as inviting the relevant Gold Standard regional office (nahla@cdmgoldstandard.org or heba@cdmgoldstandard.org)

PP All relevant stakeholders are included in SFR meeting.

LA Because the invitation email for the GS regional office and the NGO supporters was not legible in the GS passport version 02 /02b/ this point was addressed in CAR#17. The PP provided a legible mail copy of the invitation and the point was closed.

5.4 GS The amount and content of comments mentioned in section E.1 of the Passport is not consistent with the minutes of the stakeholder consultation report. Please include all of them, indicating assessment and response individually.

PP The questions had been raised during preliminary meeting, only most relevant questions had been added in first version. All questions raised during meetings have been included in revised passport.

LA The comments were checked and all comments were covered in the GS passport version 02 /02b/.

5.5 GS Nothing is mentioned about stakeholders who may be potentially affected by the 12 km transmission line. Please kindly clarify why.

PP The Transmission line is owned by TEIAS therefore it is within their responsibility all legal processes (including route, design and expropriation) are completed. For Aralık HEPP, the connection point has been changed due to new lines built for projects. Therefore, the total length of transmission line built for Aralık project has been 5 km. System connection agreement is provided to DOE for confirmation of length of the line (annex of of agreement, page 11).

LA The length of the transmission is not crucial for the need to discuss the effects on stakeholders and therefore this point was included in CAR#18. The PP argued that according to the system connection agreement /57/ the transmission line is owned by TEIAS but the construction of the transmission line can be delegated to the project owner to grant the opportunity to speed up the construction process of the system connection. No expropriation of private land was enforced for the

construction of the transmission line. After checking of the system connection agreement /57/ and the expropriation decision /48/ this argumentation was accepted and **CAR#18** was closed

5.6 GS Second round of consultation. Please note that a site visit is highly recommended. Also, please ensure that for the second round of consultation all points from the Pre-feasibility Assessment are taken into account and discussed as needed with the relevant stakeholders. Please also ensure the following information is included in the revised GS Passport:

PP A site visit has been made with stakeholders in powerhouse and weir location considering comments in PFA.

LA The site visit was confirmed by pictures that were added to the GS passport /01b/ and also by the provided invitation ads from newspapers /01b/ and the signed list of participants' /01b/.

5.7 GS A summary of stakeholder comments and action taken to resolve the issues, including but not limited to, an updated SD Matrix and Monitoring Plan.

PP Questions raised during preliminary meeting, SD matrix and monitored parameters have been explained during presentations.

LA A table with translated feedback forms with comments was added to annex 4 of the GS passport after addressing this point in CAR#19. The original forms are difficult to read but the translation is obviously complete and correct. No basically new relevant issues were raised.

5.8 GS A copy of all postings, flyers or other means used to invite the stakeholders' feedback.

PP Copies of receipts for postings and feedback forms have been added to passport as annex.

LA A table with translated feedback forms with comments was added to annex 4 of the GS passport after addressing this point in CAR#19. The original forms are difficult to read but the translation is obviously complete and correct. No basically new relevant issues were raised.

5.9 GS A clear list of all meeting attendees, with signatures and clear contact details

PP List of meeting attendees has been added.

LA A list of meeting attendees was added as Annex 3. The list did not contain contact details but if the participants did not fill the contact information column the PP is not to blame. Nevertheless the PP provided contact information for a couple of participants per Mail.

5.10 GS Original filled-in copies of any questionnaires that were distributed

PP Original questionnaires have been added to passport also.

LA Original copies of feedback forms from the SFR were added to the GS passport version 02 /01b/

5.11 GS DOE interviews of local stakeholders. The second round of consultation can happen in parallel with the retroactive validation. In this case, the DOE is strongly recommended to interview local stakeholders during the on-site visit to ensure that the information compiled in the project documentation actually reflects stakeholder inputs (concerns, positive and negative feedback).

LA The site visit was performed at the 14/07/2009 and included interviews with several stakeholders /109/ who took part at the preliminary stakeholder consultation meeting. It was confirmed that the comments given in the pSC report /03a/ reflected the opinions and objections of the stakeholders.

## 6. Monitoring

Please note that the monitoring plan should include the following:

- All mitigation measures put in place to prevent the risk of violating a Safeguarding Principle of the 'Do No Harm' Assessment.
- All non-neutral indicators from the final SD Matrix, or indicators which have been neutralized (set to zero) due to a suitable mitigation measure.
- Any mitigation or compensation measures identified during a detailed discussion of the Table C-2 eligibility criteria for hydro projects.

- Any mitigation or compensation measures arising from the pre-EIA.
- Any valid mitigation or compensation measures, sensitive concerns, or promised contributions discussed with the stakeholders during the stakeholder consultation that are not already encapsulated in any of the points mentioned above.

Taking into account the previous point, please kindly update the monitoring plan to include the following:

- 6.1 GS The positively scored indicators Quality of Employment, Livelihood of the Poor, and Access to Energy Services.
- PP Monitoring plan was updated for simplification and considering neutralized scores.
- LA The above mentioned parameters were scored neutral in the revised version of the SD matrix in GS passport version 02 /02b/. The monitoring of these indicators/parameters was omitted. These changes were accepted as reasonable and in line with the GS requirements.
- 6.2 GS The neutralized indicators Soil Condition, Other Pollutants and Biodiversity
- PP Monitoring plan was updated for simplification and considering neutralized scores.
- LA Since these indicators were scored neutral on the basis of mitigation measures monitoring plans have been added. The monitoring plans were checked and found applicable and valid.
- 6.3 Gs The promised contributions of KAR-EN mentioned on page 27 of the PDD, along with suitable monitoring parameters in order to ensure the desired positive effect on the local communities.
- PP As per the GS comments, indirect benefits of projects which are not direct consequence of project cannot be used in SD matrix. If this is the case then they should not be perceived as a commitment. The list given only covers a part of contributions already made and in place (during initial stages of construction). This is a voluntary action, these are not commitments made to locals and other new contributions are expected to be made during advanced stages of construction and implementation. Regardless, a monitoring parameter has been defined for the contributions.
- LA In the PDD version 02 /01b/ the voluntary contributions were not covered with monitoring parameters and the point was included in CAR#21. In version 08 of the GS passport /02/ all voluntary contributions are listed in the monitoring table and the method for monitoring is defined. The usual method is a statement from local stakeholders and in several cases photo documentation. This monitoring method was accepted due to the covered activities which are mostly already finished.
- 6.4 GS The stakeholder concerns on disappearance of water streams due to tunneling, and how this will be followed up on.
- PP We couldn't identify any concern about loss of stream.
- LA In the PDD version 02 /01b/ this Point was also not covered with a monitoring parameter and was included in CAR#21. The monitoring plan was created to detect if such concerns were still detectable during the first verification.
- 6.5 GS Water quality and quantity. Please briefly define "continuously" for the monitoring of the proposed minimum flow of 150l/s to protect aquatic life. Also, please clarify if water flow will be monitored by the authority, by the Project Developer or by both of them, as in other chapters it is said that the authority will monitor this parameter.
- PP The monitoring frequency is revised. It is DSI's responsibility to monitor to the flow released through gauging stations. Project owner fix the water released though adjusting gate opening according to water level in the weir. DSI can require project owner to install a gauging station in the downstream of the weir to measure flow. For the proposed project, if DSI requests installation of gauging station, the data will be taken by project owner and used as a more reliable reference.
- LA The description in the PDD version 02 /01b/ was not really clear and CL#22 was raised. The PP provided an explanation that the PA will install a gauging station and the calculations and flow records will be submitted during the verification. This approach was accepted.
- 6.7 GS Soil condition. Please include excavation aggregates in the Sustainability Monitoring Plan since if those residues are not given in a controlled way to end users as stated, they could generate other impacts.

PP The aggregates obtained from tunnelling will be used in concrete and road construction for this project. If there is excess material, it has to be disposed in appropriate location upon permission of local authorities. Due to the topography of the region, filling material is valuable and locals demand for the aggregate to level their lands. The information about the aggregates has been detailed in passport.

LA In CAR#23 it was requested that permissions and records of excavation disposals were included in the monitoring plan. This was realized in GS passport /02f/.

- 6.8 GS Other pollutants: Please include used oils storage and waste disposal in the revised Sustainability Monitoring Plan.

PP Waste Oil was added in monitoring plan.

LA CAR#24 requested the monitoring of storage of used oil. The PP stated in the SD justification section that the oil exchange will only be scheduled every 3 to 5 years and for this reason storage of new or used oil will only occur temporarily. This explanation was evaluated as reasonable and in line with similar projects.

- 6.9 GS Biodiversity. Please clarify how you will monitor the adequacy of the mitigation measure in maintaining the current level of biodiversity.

PP Compensation will be made for trees impacted via payments to forestation fund of Directorate of Forestry. For river habitat, the flow determined in feasibility report has been increased to minimum 10% of natural flow by a new regulation. The project will comply with this regulation. Since the flow is seasonal and the river dries in summer months, the weir reservoir will provide an incubator for river habitat and have positive impact in that respect. As per GS comments, further measures have been defined for monitoring mitigation measures on biodiversity.

LA For further specification of the efficiency of the monitoring approach and the document link for minimum flow regulation CAR#25 was raised. The PP included the independent third party study for the functionality of the fish passage in the monitoring plan and provided the link for the regulation. The regulation was checked and found valid.

- 6.10 GS Quality of employment. Please include this indicator in the Sustainability Monitoring Plan and include certificates of trainings kept onsite as evidence.

PP The indicator was neutralized for simplification of monitoring plan.

LA Neutral scoring was accepted.

- 6.11 Gs Livelihood of the Poor. Depending on the revised score, please include in Revised Monitoring Plan if employment at project has helped to change living standard of the employees above the poverty line or in other relevant ways.

PP The indicator was neutralized for simplification of monitoring plan.

LA Neutral scoring was accepted.

- 6.12 GS Volume of diesel used in diesel generator. The PDD should clearly define if the volume of diesel used in diesel generator at site will be based on direct measurement or will be derived indirectly based on equipment running hours.

PP It has been stated that fuel consumption will be calculated considering working hours.

LA The calculation of fuel consumption by equipment working hours is accepted as sufficient, keeping in mind that the methodology AMS I-D. do not require the monitoring of project emissions for new build small scale renewable energy power plants.

## 7. Other

- 7.1 GS Please upload the Aralik HEPP Project Introductory Document, as referenced on page 2 of the PDD, to the GS registry.

PP The document has been uploaded on 18/08/2009

- 7.2 GS Please upload an English summary of the pre-EIA document, specifically the section regarding the recommended mitigation and compensation measures.

- PP Summary will be added to registry together with revised documents.
- LA The English summary of the pre-EIA document was provided to the DOE /62/.
- 7.3 GS Please ensure that the project name used for the Gold Standard Registry is the same as in the rest of the documents.
- PP Same project title has been used in revised PDD and passport.
- LA The titles in PDD and GS passport were harmonized.
- 7.4 GS PDD, page 17: Please revise formula (1) as it is unreadable.
- PP It is probably due the patches or version word editor. The format of the formula has been revised.
- LA The formula (1) was still not readable in PDD version 02 /01b/ and the point was therefore added to CAR#10. The formula was corrected in PDD version 04 /01f/.
- 7.5 GS Please explain why the transmission line (and its impacts on land property, land quality and biodiversity) is not considered in the SD assessment. If this information is available in the pre-EIA, please kindly upload the English summary so that the reviewers can more easily assess the impacts.
- PP The transmission line should be built by TEIAS (Turkish Transmission Company) which is a public institution responsible for building and operating the Turkish electricity grid. However due to the constraints in government budget these investments have been delayed and to prevent energy shortage, the cost has been delivered to project owner to prevent delay of connection to the grid. The line design and all legal process including expropriation will be made by TEIAS but the payment will be made project owner. The line is medium voltage (34.5kV) and some polls can be located in private land. For this purpose, about \$200K has been allocated for expropriation if necessary.
- LA The statement of the PP was confirmed by the system connection agreement /57/.
- 7.6 GS The GS notes that at the time of preparation of the PDD, Passport and Preliminary Stakeholder Consultation Report, GS version 2.1 manuals and templates were not available. However, since the date of document upload (18/08/2009) occurred after version 2.1 officially came online (01/08/2009), all project documentation should be reflecting GSv2.1 rules and guidelines. Therefore, please ensure that the GS Passport and LSC Report are upgraded to reflect the proper templates, especially before undertaking the retroactive GS validation. Use of old versions will slow down the validation and subsequent GS registration process.
- PP Version of documents templates used have been updated.
- LA This point was not covered with GS passport version 02 /02b/ and CAR#30 was raised. From version 04 of the GS passport /02f/ the GS version 2.1 template was used. .

#### **4.10 Environmental Impact Assessment**

The project complies with the environmental legislation in the host country. This can be confirmed by granted licences as the generation licence /68/, the construction permission /66/, the approval of commissioning /18/, forest permission /56/, system connection agreement /57/. And also from the feasibility report /47/, the pre EIA study /46/ and the EIA approval letter /14/.

The PP presented the findings of the pre-EIA study in section D of the PDD /01k/. The statement that the pre-EIA does not point out a negative environmental impact can be confirmed.

The pre-EIA study refers mainly to the environmental impacts during the construction like noise and dust emission and waste generation. All these factors will be handled according the national legislation.

This assessment was confirmed by the Ministry of Environment and Forestry by the issuance of the EIA approval letter for the project activity.

The Ministry of Environment and Forestry issued the EIA approval letter for the project activity on the basis of the pre-EIA and confirms that no significant environmental effects will be induced by the project activity.

Further environmental effects like effects on biodiversity by the reduction of the river flow between weir and water outtake at the power house and the effects of sediment accumulation beneath the weir are discussed in the WCD checklist from table C-2 of annex C of the GS toolkit ver.2.1.

All relevant possible environmental impacts were discussed in the sustainable development matrix in the GS passport and covered with mitigation measures and monitoring plans. These potential environmental effects are covered with mitigation measures which sufficiently ensure that no adverse negative effects will remain.

## 5. Comments by Parties, Stakeholders and NGOs

### 5.1 Stakeholder Consultation

The PP organized a local stakeholder meeting on 12.05.2009 /3a/. During the site visit on 14/07/2009 it was getting clear that the project activity has to apply for registration according to the retroactive project cycle and therefore a local stakeholder consultation was not required any more. In the following assessment this meeting will be addressed as preliminary stakeholder meeting.

For the above mentioned reason it was not necessary to adopt the template version to GS version 2.1. and the preliminary stakeholder meeting was not assessed according to the requirement for the local stakeholder consultation. Nevertheless the date of the pSC was assessed by the presented newspaper ads and the interview with the local stakeholders during the site visit. And it was checked and confirmed that all relevant stakeholder comments were discussed and covered with mitigation measures if necessary.

The term 'Local Stakeholder Consultation' should not be used in the context of retroactive projects. The term 'Preliminary Stakeholder Consultation' should be used to refer to this first meeting in the revised project documentation.

In section E.1. of the PDD ver.02 /01b/ the expression was not corrected and for figure 9 it should be also corrected to preliminary. This is also valid for the abbreviation LSC. For this points **CAR#16** was opened.

After the correction of the PDD ver.03 /01d/ and the GS passport /02d/ neither the term 'Local Stakeholder Consultation' nor the abbreviation LSC were found in PDD or GS passport. **CAR#16** was closed out.

According to an GS comment the PP has to explain why no potential effects on stakeholders by the 12 km transmission line were discussed. The comment of the PP that the transmission line is in the responsibility of TEIAS and only 5 km long was assessed as not sufficient and **CAR#18** was raised.

The PP states that according to the system connection agreement /57/, the transmission line is owned by TEIAS but the construction of the transmission line can be delegated to the project owner to grant the opportunity to speed up the construction process of the system connection. No expropriation of private land was enforced for the construction of the transmission line. After checking of the system connection agreement /57/ and the expropriation decision /48/ this argumentation was accepted and **CAR#18** was closed.

The formal information of the national focal point could not be verified, because the NFP Mr. Mustafa Sahin from the Ministry of Environment and Forestry was listed on the invitation list for the preliminary stakeholder meeting but no submission receipt was provided. Therefore **CAR#02** was raised.

The PP stated that representatives of the NFP were invited. This was confirmed for the preliminary stakeholder consultation by the invitation tracking table and the post receipts /03a/50/, for the stakeholder feedback round, confirmed by the invitation tracking table in annex 2 GS passport /02k/ and in collection of mail receipts /86/ in which Mrs. Fulya Somunkiranoglu, who is Head of the Climate Change Department at the Ministry of Environment and Forestry, Turkey was listed. The invitation letter is accepted as formal information of the Turkish focal point. **CAR#02** was closed out.

The stakeholder feedback round was implemented according to the requirements for a retroactive project cycle.

The stakeholder feedback round started at 20/04/2010. The project PDD ver.03 /01d/ and GS passport /02d/ were provided over the GTE homepage as shown by a screen printout /102/.

The pre-feasibility assessment defined the following parameters as necessary for second stakeholder consultation round:

- Use of a proper participant code in the invitation tracking table
- Invitation of all relevant participants
- Invitation of all relevant regional offices of the 5 international GS NGO supporters
- A site visit
- All points from the pre-feasibility assessment are taken into account
- A summary of stakeholder comments and action taken to resolve the issues.

- A copy of all postings, flyers and other means for invitation of stakeholder.
- A clear list of all meeting attendees.
- Original filled-in copies and questionnaires that were distributed.

In the GS passport version 02 /02d/ the PP added in section E.2. a description of the stakeholder feedback round. The PP organized a physical meeting. The invitation table for the SFR meeting is given in annex 2 of the GS passport /02k/. The participant codes are addressed correctly. All relevant participants were invited. A copy of the invitation letter is given in the annex of GS passport /02d/.

In the first round of documentation the PP did not provide a list with all invited stakeholders for the SFR with the correct category codes and **CAR#17** was raised.

In the list of invitees provided by the PP with the updated GS passport /02f/ the category codes were still not correct and the invitation mail for the GS regional in annex 2 was not readable. In GS passport /02h/ the category codes for the stakeholders were corrected and accepted. The invitation mail for GS regional office was provided in a legible version, checked and accepted as sufficient proof for sending out the invitations. And in GS passport /02j/ the missing stakeholders from the email were added into the invitation list in the revised GS passport. **CAR#17** was closed

The GS comments from the pre-feasibility assessment about the second round of stakeholder consultation were not covered sufficiently and **CAR#19** was raised with the following points:

1. The description of the SFR meeting is not sufficient. It can not be validated if all relevant points have been discussed.
2. No stakeholder comments from the SFR meeting are listed.
3. No news paper ads or other kind of announcement were provided. Does that mean that the invitations were only done by personal letters and how were the people living in the settlements and nearby the project been invited to the stakeholder meeting?
4. A list of meeting attendees has been added as annex 3. Please add a heading to annex 3. No telephone numbers are provided.

The PP revised the section of the stakeholder feedback round in the GS passport /02f/02h/.

1. A meeting report was added in section E.2 in the GS passport /02f/. All relevant points are covered. Summaries of the project documentation were provided /106/. The date of the SFR meeting has been added and the duration of the stakeholder feedback commenting period.
2. GS passport v02 page 48. A list with translations of the original feedback forms of the stakeholder feedback round has been provided. The point was closed.
3. News paper adds for the invitation of the local stakeholders to the stakeholder feedback round were provided by the PP /63/64/ and added to the GS passport annex 2. The point was closed. .
4. A heading to annex 3 "SFR Meeting Participant List" was added. Telephone numbers of some participants were provided. The point that not for all participants contact details are available was accepted, because these kind of problems are very common for stakeholder meetings. The point was closed.

All points were closed and **CAR#19** was closed out.

In the GS passport version 02 /02d/ the PP added in section E.2., a description of the stakeholder feedback round. The PP organized a physical meeting. The invitation table for the SFR meeting is given in annex 2 of the GS passport /02k/. The participant codes are addressed correctly. All relevant participants were invited. A copy of the invitation letter is given in the annex of GS passport /02d/.

The relevant regional offices were invited via an email. A screen copy of the mail is provided in the annex of the GS passport /02k/. The PP gives a short report of the meeting indicating that the technical aspects of the project were discussed as well as the SD matrix. Therefore all relevant points of the pre-feasibility assessment were covered. The PP provided a list of all comments from the feedback forms filled during the meeting in

annex 4 of the GS passport /02k/ and the scanned original versions. All negative relevant comments were covered by mitigation measures and monitoring tables.

The PP provided the scanned version and a clear list of the meeting attendees.

In the GS passport /02k/ the PP provided scanned copies of the newspaper invitations and the email invitation to the NGOs.

## 6. List of Persons Interviewed

Date of direct interview	Name	Position	Short Description of Subject Discussed
14/07/2009	Nihat Dedekli,	MNG / Civil Engineer	Project layout, weir, tunnel, penstock
14/07/2009	Firat Özpınar,.	GTE / Business Development Exce	All aspects of the project
14/07/2009	Mesut Özden,	MNG / Engineer	Project layout, weir, tunnel, penstock
14/07/2009	M. Kemal Demirkol,	GTE / Project Development Manager	All aspects of the project
14/07/2009	Cumhurzie Kucelekas,	KAR-EN / Project Manager	Construction power house and electrical equipment
14/07/2009	Ahmet Kocak,	Civil engineer	Project layout, weir, tunnel, penstock
14/07/2009	Atila Elmasli	MNG-ESMAS/project dir.	Project layout, preliminary stakeholder consultation, financial topics
14/07/2009	Havva Hanedar	Teacher	Local stakeholder, preliminary stakeholder consultation
14/07/2009	Elif Öztürk	Student	Local stakeholder, preliminary stakeholder consultation
14/07/2009	Ramazan Demir	Representative of Aralik village headman	Local stakeholder, preliminary stakeholder consultation
14/07/2009	Elif Öztürk	Part time employee	Local stakeholder, preliminary stakeholder consultation
14/07/2009	İsmail Hoşgör	Driver	Local stakeholder, preliminary stakeholder consultation

## 7. Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the GS Project Design Document and confirmation by the host Party on contribution to sustainable development).

/01a/	01a_ARALiK HEPP PROJECT PDD (16.04.2009).pdf (first version submitted by DOE for site visit and validation purposes)*
/01b/	01b_ARALiK HEPP PROJECT PDD (30112010)_track change.pdf
/01c/	01c_ARALiK HEPP PROJECT PDD (30112010).pdf
/01d/	01d_ARALiK HEPP PROJECT PDD 03 03 2011_track change.doc
/01e/	01e_ARALiK HEPP PROJECT PDD 03 03 2011.doc
/01f/	01f_ARALiK HEPP PROJECT PDD 09 05 2011_track change.pdf
/01g/	01g_ARALiK HEPP PROJECT PDD 09 05 2011.pdf
/01h/	01h_ARALiK HEPP PROJECT PDD 08062011_track change.pdf
/01i/	01i_ARALiK HEPP PROJECT PDD 22062011_track change.pdf
01j/	not used
/01k/	01k_ARALiK HEPP PROJECT PDD 30062011_track change.pdf
/01l/	01l_ARALiK HEPP PROJECT PDD 30062011.pdf
/01m/	01m_ARALiK HEPP PROJECT PDD 07072011.pdf
01n/	01n_ARALiK HEPP PROJECT PDD 26072011clean copy
/02a/	02a_ARALiK HEPP PROJECT PASSPORT (14.04.2009).pdf
/02b/	02b_Aralik_GS_Passport_30112010_track change.pdf
/02c/	02c_Aralik_GS_Passport_30112010.pdf
/02d/	02d_Aralik_GS_Passport_25012011_track change.pdf
/02e/	02e_Aralik_GS_Passport_25012011_clean copy.pdf
/02f/	02f_GSv2.1_Passport_Template_aralik_track change.pdf
/02g/	02g_GSv2.1_Passport_Template_aralik_clean copy.pdf
/02h/	02h_GSv2.1_Passport_Template_aralik_track change.pdf
/02i/	02i_ARALiK GSv2.1_Passport_09052011.pdf
/02j/	02j_GSv2.1_Passport_Template_aralik_01062011_track change.pdf
/02k/	02k_GSv2.1_Passport_Template_aralik_22062011_track change.pdf
/02l/	02l_GSv2.1_Passport_Template_aralik07072011_track change.pdf
/03a/	03a_ARALiK HEPP PROJECT pSC (14.04.2009).pdf
/4/	not used

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

/5/	05_AppendixBattachA.pdf
/6/	06_Additionality_tool.pdf
/7/	07_EB35_repan12_Tool_grid_emission.pdf
/8/	08_GSv2.1_Requirements.pdf
/9/	09_GSv2.1_Toolkit_Clean.pdf
/10/	10_GSv2.1_Annexes_O-S.pdf
/11/	11_ilce.pdf
/12/	12_Kopie von 43.xls
/13/	13_ARALiK-URETIM LISANSI.pdf
/14/	14_aralÖk hes ced belgesi.pdf
/15/	15_ARALiK_EKIPMAN_ALIM_ANLASMASI.pdf
/16/	16_ARALiK_KREDI_ANLASMASI.pdf
/17/	17_Pre-feasibility Assessment_Aralik HEPP_Turkey_GS663_final_30112010.doc
/18/	18_approval of commissioning.pdf
/19/	19_sscdebund.pdf

\* only the PDD versions listed in this report have been checked during the validation process

/20/ 20\_EB48\_repan23\_AMS\_I.D\_ver14 copy.pdf  
 /21/ 21\_Kopie von 1-1.xls  
 /22/ 22\_Kopie von 32.xls  
 /23/ 23\_turkey2005.pdf  
 /24/ 24\_veriler.htm  
 /25/ 25\_Kopie von istihl-1.xls  
 /26a/ 26a\_confidential Aralik Financial Model\_22112010.xls  
 /26b/ 26b\_confidential Aralik Financial Model\_22062011.xls  
 /27/ 27\_Kopie von ctryprem06-3.xls  
 /28/ 28\_Kopie von 13-1.xls  
 /29/ 29\_5(1984-05).xls  
 /30/ 30\_8\_2006.xls  
 /31/ 31\_8\_2007.xls  
 /32/ 32\_KAPASITEPROJEKSIYONU2008.pdf  
 /33/ 33\_Kopie von 30(84-07).xls  
 /34/ 34\_Kopie von 43-1.xls  
 /35/ 35\_Kopie von 45.xls  
 /36/ 36\_copy of 42.xls  
 /37/ 37\_copy of 44.xls  
 /38/ 38\_Kopie von 35(2001-2005).xls  
 /39/ 39\_Kopie von 7-1.xls  
 /40/ 40\_Kopie von 7-2005.xls  
 /41/ 41\_Kopie von 8\_2006.xls  
 /42/ 42\_Kopie von 8-2007.xls  
 /43/ 43\_KAPASITE PROJEKSIYONU 2007.pdf  
 /44/ 44\_Kopie von 36(06-07).xls  
 /45/ 45\_hirschberg1.pdf  
 /46/ 46\_07\_AralikReg□lat"r□VeHES PrjTanDos.pdf  
 /47/ 47\_AralÖk –FSR\_ \_Nov\_2006.pdf  
 /48/ 48\_ARALIK\_KAMULASTIRMA KARARLARI ve ORMAN IZINLERI.pdf  
 /49/ 49\_tur\_2009\_crf\_13apr.zip  
 /50/ 50\_ARALIK\_LSC\_POSTA.pdf  
 /51/ 51\_aralÖk matrix.xlsx  
 /52/ 52\_ARALIK\_EKIPMAN\_TEKNIK BROSURLERI.pdf  
 /53/ 53\_board decision page.tif  
 /54/ 54\_bond rates\_aralik.xls  
 /55/ 55\_Confidential\_aralik\_CM\_calculation.xls  
 /55a/ 55a\_Confidential\_aralik\_CM\_calculation.xls  
 /55b/ 55b\_Confidential\_aralik\_CM\_calculation.xls  
 /56/ 56\_forest permission.tif  
 /57/ 57\_System Connection Agreement.pdf  
 /58/ 58\_CC101372\_mailreceiptsSFR.pdf  
 /59/ 59\_AralikReg□lat"r□VeHES PrjTanDos.pdf  
 /60a/ 60a\_New Scan-20101123145146-00002.tif  
 /60b/ 60b\_New Scan-20101123145142-00001.tif  
 /61a/ 61a\_participants 1.tif  
 /61b/ 61b\_participants 2.tif  
 /61c/ 61c\_participants 3.tif  
 /62/ 62\_preEIA eng summary aralik-eia-final.doc  
 /63/ 63\_newspaper ad1.pdf  
 /64/ 64\_newspaperad2.pdf  
 /65/ 65\_Board Decision page1.tif  
 /66/ 66\_Construction permission.pdf  
 /67/ 67\_approval of commissioning.pdf  
 /68/ 68\_Aralik Hepp Generation License.pdf  
 /69/ 69\_Kopie von 32.xls  
 /70/ 70\_Kopie von 43.xls

/71/	71_Letterhead notification letter change of owner.pdf
/72/	72_GTF_Presentation_9Nov2009.pdf
/73/	73_payroll.tif
/74/	74_payroll2.tif
/75/	75_operation cost reference.pdf
/76/	76_StateOfTheVoluntaryCarbonMarkets_2009.pdf
/77/	77_average market price.pdf
/78/	78_pmum average weighted price 2009.xls
/79/	79_receipt for permission.pdf
/80/	80_loan agreement.pdf
/81/	81_construction permission.pdf
/82/	82_elster A1500_Flyer_E3 1.pdf
/83/	83_metering tests.pdf
/84/	84_ELEKTRIK PIYASASINDA ŞRETİM FAALİYETİNDE BULUNMAK ŞZERE SU KULLANIM HAKKI ANLASMASI İMZALANMASINA İLİSKİN USUL VE ESASLAR HAKKI.pdf
/85/	85_invitation email.ppt
/86/	86_CC101372_mailreceiptsSFR.pdf
/87/	87_feedback forms_SFR.pdf
/88a/	88a_New Scan-20101123145142-00001.tif
/88b/	88b_New Scan-20101123145146-00002.tif
/89a/	89a_participants 1.tif
/89b/	89b_participants 2.tif
/89c/	89c_participants 3.tif
/90/	90_expropriation list.pdf
/91/	91_investment summary_audited.pdf
/92/	92_PARAM_07_2007 1.pdf
/93/	93_monthly generation 2007.xls
/94/	94_provisional acceptance.pdf
/95/	95_TUTAR_07_2007.pdf
/96/	96_TUTAR_08_2007.pdf
/97/	97_Kurumlar Vergisi Orani 01.01.2006 -221 dan Geçerli Olmak Şzere oldu.. – MMBB.ORG.pdf
/98/	98_StateOfTheVoluntaryCarbonMarkets_2009.pdf
/99/	99_UK Val LA CL VCS2007 CCP.VOL0673 WUL 110707 RWE.doc
/100/	100_LawonRenewableEnergyReources.pdf
/101/	101a_LawonRenewableEnergyReources_Übersetzung
/102/	101_ELEKTRIK PIYASASINDA ŞRETİM FAALİYETİNDE BULUNMAK ŞZERE SU KULLANIM HAKKI ANLASMASI İMZALANMASINA İLİSKİN USUL VE ESASLAR HAKKINDA Y™NETMELİK.htm
/102/	102_gte-sayfa-print-screen.doc
/102a/	102a_gte-sayfa-print-screen.jpg
/103/	103_Kopie von 20Dag_srk_icin_2007_trf.xls
/104/	104_1043225155796.doc
/105/	105_ARALIK HES invitation central units.doc
/106/	106_aralik bilgi notu son hali.doc
/107/	107_sayaçlar.doc
/108/	108_elektrik_piyasasi_lisans_yonetmenligi.pdf
/109/	109_ARALIK INTERVIEW SUMMARY.doc
/110/	110_ARALIK HYDRO ELECTRIC POWER PLANT
/111/	111_ARALIK HES invitation central units
/112/	112_aralik bilgi notu son hali
/113/	113_FW GS 663-Aralik HEPP Stakeholder Feedback Round
/114/	114_generation figures
/115/	115_LawonRenewableEnergyReources
/116/	116_EnVer_kanunu_tercume_revize2707
/117/	117_EML
/118/	118_environmental law kanun 2872

/119/ 119\_Forest Law  
/119a/ 119a\_Forest Law\_ammendment1003  
/119b/ 119b\_Forest Law\_ammendment2004  
/120/ 120\_Final approval financial expert CCP.VOL0673 Aralik

## Annex 1 - Local Assessment Checklist

This checklist is designed to provide confirmation of in-country data and information provided in the Project Description for ARALIK HEPP, Turkey.

It serves as a “reality check” on the project that is completed by a local assessor from SGS Germany.

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
In the PDD, the given longitudes/latitudes are plausible, but not detailed enough. Please provide at least two sets of coordinates for each project: one for the weir and one for the powerhouse in order to properly identify the locations.	<p>Measured coordinates for the power house: N 41°23.599; E 41°41.812</p> <p>Measured coordinates for the regulator: N 41°23.303; E 41°44.077</p> <p>Measured coordinates for the penstock: N. 41°23.696; E 41°42.012</p> <p>The coordinates fit with the range of coordinates given in the PDD.</p>	A.4.1	<p>Coordinates in PDD ver.02 given for weir and power house.</p> <p>The coordinates fit with the range of coordinates given in the PDD. OK</p>
Start of crediting period under PDD section C.2.1.1 has to be dd/mm/yyyy	The new start of crediting period will be 01.09.2009. Date will be updated in the documentation and the date format will be corrected.	A.4.6	Start of crediting period in PDD ver. 02 was changed to 01/05/2010. ok
If on site check for any signs of donor funding	No signs of donor funding could be found during the site visit by checking the credit agreement with the Finansbank Malta LTD. Other financial documents were not at hand during the site visit. During the interviews no hint that public funding is involved in the project was stated.	A.6.1 ARALIK_KREDI_ANLASMASI.pdf	Ok
Common practice analysis has got gaps, as there is no indication in which respect and to which extent Aralik	This issue was discussed. The PP stated that it is very difficult to collect data about the conditions of the other run of river HEPPS. There is no registry with information if a project have received VER or private funding.	B.4.2 07_AralikRegulatoruVeHES PrjTanDos.pdf	In PDD ver.02 the PP provided a detailed common practice analysis with detailed information

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
<p>HEPP is essentially different from already existing HEPP. Please explain.</p>	<p>The PP will try to collect additional information for this power plants and revise the argumentation.</p> <p>From the point of the PP the situations for the other run of river HEPPs are really different according to the construction conditions and the low IRR.</p> <p>At least the construction conditions appear to be somehow special for Aralik. The tunnel is according to the feasibility report and a technical description about 2.8 km long and an additional service tunnel had to be build. The access to the construction site of the penstock and the small pool at the end of the tunnel is due to the sharp decline extensive.</p>	<p>aralik teknik ozellikler.jpg</p>	<p>about comparable HEPPs. Ok</p>
<p>During site visit, the existence of two electrometers in line should be checked</p>	<p>The existence of two identical electrometers off the type Elstar A 1500 in line was checked during the local assessment. Pictures were taken. The devices are not sealed. No calibration labels were visible.</p> <p>Calibration protocols were not at hand at the site.</p> <p>It has to be shown by the PP that the presented meters are really the meters that are used for the measurement of the delivered electricity to the grid. The connection agreement has to be provided if the transfer point is the power house or the transformation station. The transmission line to the next transformation station is build by the PP. A new CL should be opened for this issue.</p>	<p>B.10.1</p>	<p>CAR12 was raised for this issue and closed. To check the meters during the first verification FAR11 was opened.</p>
<p>The figure for the operational lifetime of the HEPP is said to be 46 years. In the literature and the internet the estimated lifetimes for HEPP differs between 20 and 80 or more years. The PP has to provide evidence or a</p>	<p>The operation license is granted for 49 years including preparing and construction phase. After the 49 years the facility must be given to the government. A prolongation of the period for another 50 years depends on a new license. The reasons for the selection of the lifetime are reasonable.</p> <p>The generation license is granted for 49 years. The legal regulation that the facility is transferred to the government will be provided by the PP . 04.08.2002, No. 24836, "Elektrik</p>	<p>C.1.1 Kara No. 24836, "Elektrik Piyasasi Lisans Yönetmeliği" ("Electricity Market License regulations")</p>	<p>Regulation provided /108/. Statement is correct. Ok</p>

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
<p>reasonable assumption or calculation for the expected operational lifetime. This could for example be substantiated with the generation license.</p>	<p>Piyasasi Lisans Yönetmeliği". ("Electricity Market License regulations") /8/.</p> <p>The regulation says that the PP can not shut the facility down. The permission can be prolonged or the government has the right to continue production. The book value is zero after 49 years.</p>		
<p>Main issues raised by the participants were about:</p> <ul style="list-style-type: none"> <li>• Amount of water flow in the river bed,</li> <li>• Impacts of HEPP on microclimate and environment in the region and,</li> <li>• Job opportunities for the local people</li> </ul> <p>These issues were accounted for by project operation procedures and by equalization measures - which are to be confirmed on-site.</p>	<p>Impact on microclimate for the region is very unlikely. The region is very damp with regular rainfall and rich vegetation.</p> <p>The minimum flow of water according legislation is guaranteed. The water flow will be monitored by meters which will be read in the control house near the weir. Used will be a limnograph.</p> <p>The measurement of the water flow will be added in the SD matrix. The PP will provide the specifications of the meter device that will be used for this purpose.</p> <p>Impacts on the environment from construction roads are noise and excavation. The noise level was calculated in the pre EIA and evaluated as not critical. Also other effects on the environment assessed in the pre EIA.</p> <p>The pre EIA will be provided to SGS</p> <p>Approximately 10 people will be hired in the local region during the operation phase. The contracts are not signed yet. During the construction phase many local workers are working on the site.</p>	<p>E.1.5</p>	<p>The monitoring plan for the measurement of the minimal flow was revised.</p> <p>The pre-EIA /46/ and an English summary /62/ were provided.</p> <p>Ok</p>
<p>The technical argumentation for additionality shall be addressed on-site during the interviews with project stakeholders,</p>	<p>The information about the technical problems of the project implementation from three participants of the local stakeholder meeting is not consistent. One said that no information was given about this issue. Another said the information was given and the third one has attended later and is not sure if this issue was discussed or not.</p> <p>In the local stakeholder assessment this issue was not</p>	<p>GS B.1.2</p>	<p>Statements to vague.</p> <p>No further information required.</p> <p>Ok</p>

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	discussed in detail.		
Preliminary check of public availability of results of public consultation should be performed during site visit	The results of the local stakeholder consultation were shown on the webpage of GTE. The report of the local stakeholder consultation is uploaded to this website. <a href="http://www.gte.uk.com/lsc/aralik_hepp_lsc.pdf">http://www.gte.uk.com/lsc/aralik_hepp_lsc.pdf</a>	GS E.1.2	Ok
Confirmation of the following documentation requested: <ul style="list-style-type: none"> <li>• filled-in invitation tracking table,</li> <li>• copies of invitations published/sent out are available (at present, only the newspaper announcement is available),</li> <li>• a non technical summary is included in the Local Stakeholder Consultation report,</li> <li>• participants list,</li> <li>• minutes of the meeting</li> </ul>	<p>As a filled in invitation table only the table in the LSC exists. Additional receipts, faxes, mail can be provided but are not at hand during the site visit. For the copies of the invitations fax and fax receipts can be provided but are not at hand. The non technical summary was send with the faxes this is document by the fax reports. The reports are not at hand and can be provided. An original version of the participants list is not at hand. Though it can be send to Istanbul or Germany. The minutes of the meeting are presented in the LSC report. The recording of the meeting on video was checked. But the sound was not clear enough to understand the text of the presentation or of the comments.</p> <p>The original documents were in general not at hand during the site visit but will be provided to SGS Istanbul or Hamburg.</p>	GS E.1.6	<p>Copy of invitation letter, mail receipts, non technical summary, original version of participants list.</p> <p>Documents and information were delivered with GS passport ver.02 and attached documents.</p> <p>Ok</p>
There are no definitely crucial indicators. However, for mitigation, measures are envisaged, such as planting new trees as equalization for damage during plant	The construction is not finished yet and the planting of trees has not been started. The PP will pay for the reforestation of the area to the ministry of environment and forestry. The bank receipt for the ministry of environment and forestry can be provided. During the local assessment no documents about expropriation	GS F.1.3, F.1.7	Covered in the sustainability monitoring plan in GS passport ver.02 and in FAR28.

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
<p>contruction            This should be checked during site visit or the first verification</p>	<p>could be checked. According to the PP a more detailed description an evidence for expropriate land and the single house near the regulator (pic 011) will be provided.</p>		
<p>Scoring criteria should be provided by PP. This may be tracked down to the way questions were posed, or how a yes/no questionnaire was worked through</p>	<p>The PP tries to collect parameters for the indicators from the examples of Annex I of GS toolkit. The development of these parameter was taken as criteria for the scoring of the indicators. This will be documented more clearly in the revised documentation.</p> <p>The check of the video was difficult because the sound was hardly to understand. The filled out templates show that some participants had a very good idea about the meaning of the parameters and some not. It can be stated the PP have tried to explain the indicators and the way of scoring.</p>	<p>GS F.1.6</p>	<p>Ok</p>
<p>Is there a precise description of the weir and its environmental effects?</p>	<p>The description of the weir and the environmental aspects are given in the pre EIA report. The pre EIA report could not be checked during the site visit will be provided by the PP.</p> <p>There is also a project implementation file. The last version of the project implementation file is provided to the SGS.</p> <p>A technical drawing of the whole project was checked during the local assessment. This general layout plan for the HEPP was about two years old. The PP will provide an updated simplified technical drawing for the PDD for a better understanding of the project design.</p>		<p>Project scheme was added to PDD ver.02.</p> <p>Ok</p>
<p>Discussion of the CARs and CLs</p>	<p>CL22: CL not valid. The PP will provide no further reference. SGS will check the sources by the local assessor.</p> <p>All other CARs and CLs were quite clear for the PP.</p>		<p>Not relevant any more.</p> <p>Ok</p>



**Persons interviewed:**

*List persons interviewed during the determination, or persons contributed with other information that are not included in the documents listed above.*

- 01 Nihat Dedekli, MNG / Civil Engineer
- 02 Firat Özpınar, GTE / Business Development Exce.
- 03 Mesut Özden, MNG / Engineer
- 04 M. Kemal Demirkol, GTE / Project Development Manager
- 05 Cumhurzle Kucelekas, KAR-EN / Project Manager
- 06 Ahmet Kocak, Civil engineer
- 07 Atila Elmasli, MNG-ESMAS/ project dir.

## Annex 2: Overview of Findings

### Findings Overview Summary

	CARs	CLs	FARs
<b>Total Number raised</b>	25	3	4

Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	01
		Reference:	Table 1

#### Lead Assessor Comment:

PDD v02 page 7: Please provide page number for reference 8  
 PDD v02 page 8: Value for emission reduction 29,480 tCO<sub>2</sub> is not correct. Please correct.  
 PDD v02 page 14: Link for reference 22 is not working. Please correct.  
 PDD v02 page 17: Table 5 is doubled. See page 15. Please correct.  
 PDD v02 page 19: Links 32 and 34 not working. Please correct.  
 PDD v02 page 31: Please explain the company name (Artvin Coruh Elektrik Uretim Sanayi ve Ticaret A.S.) in brackets. This differs from the company name given in section A.3. Please explain and correct.

#### Project Participant Response:

Date: 03/03/2011

- Page number added as "118"
- Value for ER corrected in v3
- The main webpage of group has been provided which involves contact info subsidiary (Ozgur elektrik) <http://www.bmholding.com.tr/index1.php?CatId=140&Lid=2>
- Replication has been removed
- Link for 32 has been updated, Ref 34 has been removed as it is same as previous ref.
- The company name has changed after ownership of the project has been changed. The info has been conveyed to SGS. Letter from project owner will be sent as reference. Statement has been added to PDD also. Since all written communication has been made on behalf of KAREN, the name has not been changed in PDD.

PP Response 09/05/2011

Link for reference 46 seems working.

Reference for net electricity has been added to page 20 and annex3

PP Response 01/06/2011

Link added in CM calculation sheet

#### Documentation Provided by Project Participant:

- Letterhead notification letter change of owner

#### Information Verified by Lead Assessor:

ARALIK HEPP PROJECT PDD 03 03 2011\_track change  
 71\_Letterhead notification letter change of owner

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>		<b>Date:</b> 02/05/2011	
<p>PDD v02 page 7: Page number for ref. 13 is added and found correct. Point is closed.</p> <p>PDD v02 page 8: Value for emission reduction corrected. Point is closed.</p> <p>PDD v02 page 14: Link for reference 35 (22) corrected and working. Point is closed.</p> <p>PDD v02 page 17: Table 5 is deleted. Point is closed.</p> <p>PDD v02 page 19: Link 45 (former 32) is corrected. Link 34 is deleted. Link 46 is not correct. A reference to net electricity data is missing. The data are correct but the reference not. Please correct. (please also check annex 3 and cm calculation sheet)</p> <p>PDD v02 page 31: The explanation and the provided evidence of the PP are accepted. The point is closed. CAR01 remains open.</p>			
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>		<b>Date:</b> 23/05/2011	
<p>PDD v02 page 20: Link 42 for net electricity data is added. Also the reference in annex 3 is corrected. The data table in the CM calculation sheet for net generation does not refer to the file 30(84-07). Please revise. CAR01 remains open</p>			
<p>LA 10/06/2011:</p> <p>The data sheet in the updated CM calculation file was corrected. The point is closed.</p> <p>CAR01 was closed out</p>			
<b>Acceptance and Close out by Lead Assessor:</b>		<b>Date:</b> 10/06/2011	
<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann
<b>Type:</b>	CAR	<b>Number:</b>	02
		<b>Reference:</b>	Table 1
<b>Lead Assessor Comment:</b>			
<p>Only Party is Turkey, which does not consider itself as PP.</p> <p>However, even then, a formal letter of acknowledgement of this GHG project of an official Turkish ministry is required which authorizes the mentioned entity to accomplish this GHG VER project in Turkey. Please provide an LoA of the ministry of the environment or other government institutions.</p>			
<b>Project Participant Response:</b>		<b>Date:</b> 03/03/2011	
<p><i>The project is implemented in Turkey which is out of compliance market and there exist no DNA which provides LoA for these projects. Since there exist no DNA, UNFCCC focal point has been invited to the meeting as required by GS toolkit.</i></p> <p><i>PP Response 09/05/2011</i></p> <p><i>List of invitees will be submitted together with revised versions. YOU'll see Fulya somunkiranoglu as representative of Focal Point</i></p>			
<b>Documentation Provided by Project Participant:</b>			
<i>receipt for invitations.pdf</i>			
<b>Information Verified by Lead Assessor:</b>			
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>		<b>Date:</b> 02/05/2011	

The statement of the PP is correct. Nevertheless a copy and a submission receipt for the invitation letter has to be checked. In the collection of submission receipts for invitations of the preliminary stakeholder meeting Dr. Mustafa Sahin was not found. Please provide the submission receipt.  
 LA 24/05/2011  
 The receipt was accepted. Mrs. Fulya Somunkiranoglu is Head Of Climate Change Department at Ministry of Environment and Forestry, Turkey. The invitation letter is accepted as a formal information of the Turkish focal point.  
 CAR02 was closed out.

<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 25/05/2011
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Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	03
		Reference:	GS Review 1.4 Table 2 A.2.

**Lead Assessor Comment:**

GS comment: The discrepancy of the installed capacity of 12.41 MW to the capacity of the turbines of 6.45 MW should be related to the differences between electrical and mechanical capacity. The PP stated that this is also shown on the generation license.

LA:

The generation license included in the preEIA show a total capacity of 16.02 MW. Please provide a complete and updated generation license for the project officially approved.

PDD v02 page 2: Please clarify where the total length of the convenience line is documented.

PDD v02 page 2: Calculation of natural gas savings and US Dollar savings is missing. Please provide source and calculation.

PDD v02 page 2: Evidence for the employment of 200 people during the construction phase missing. This is also valid for the GS passport page 3.

<b>Project Participant Response:</b>	<b>Date:</b> 03/03/2011
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- Updated license will be provided to DOE together with PDD ver3
- Conveyance line is nearly all tunnel. Total length of tunnel and line has been updated and page number of information from FSR has been given as footnote.
- NG saving has been added
- The figure has been provided by project owner as estimate. There exists no reference. Therefore statement has been removed from PDD and passport for simplification.

**Documentation Provided by Project Participant:**  
 Aralik Hepp Generation License

**Information Verified by Lead Assessor:**  
 ARALIK HEPP PROJECT PDD 03 03 2011\_track change  
 47\_Aralik -FSR \_ Nov\_2006  
 69\_Kopie von 32  
 70\_Kopie von 43

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 02/05/2011
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The updated generation license was provided by the PP /68/. The document is accepted. The point is closed.

PDD v02 page 2: The explanation for the length of the convenience line was accepted. The reference is correct. The point is closed.

PDD v02 page 2: Calculation of natural gas savings and US Dollar savings is added. The references are reliable. The calculation is correct. The point is closed.

PDD v02 page 2: The statement about the employment of 200 people during the construction phase was deleted. The point is closed.

CAR03 was closed out.

<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 02/05/2011
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Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	04
Reference:	Table 2 A.2.		
<b>Lead Assessor Comment:</b>			
<p>PDD v02 page 3: For table 1. Aralik project milestones please provide a date for the document loan agreement. No date could be found in this document.</p> <p>PDD v02 page 3: An evidence for the start of construction is missing. Please provide an evidence.</p> <p>PDD v02 page 3: An evidence for the commissioning date is missing. Please provide an evidence.</p> <p>PDD v02 page 3: In the PFA 10.03.2010 is the date of feedback whereas in table 1 23.06.2009 is mentioned. Please clarify or correct.</p> <p>PDD v02 page 3: The evidence for the first consideration of carbon credits is missing. Please add to the table.</p>			
<b>Project Participant Response:</b>		<b>Date:</b> 03/03/2011	
<ul style="list-style-type: none"> <li>• Last Page of the loan agreement contains date as 10/04/2008 (pasted below)</li> <li>• The date given in PDD was an estimate. There exist no evidence for start of construction. In revised version , the date was revised as 21/03/2008, date of construction permission.</li> <li>• Documents sent with previous version contain a file named "approval of commissioning" which includes a date as 30/04/2010</li> <li>• Date has been corrected as 10/03/2010</li> <li>• Board Decisions have been provided</li> </ul> <p>PP Response 09/05/2011</p> <p>Loan Agreement sent Again to DOE.</p> <p>Construction permission scanned again in colour. Unfortunately original document is not very readable also.</p>			
<b>Documentation Provided by Project Participant:</b>			
<p>Approval of commissioning          Loan agreement (Last page for date)          Board decision (page 1 and 2)          Construction Permission</p>			
<b>Information Verified by Lead Assessor:</b>			
<p>ARALIK HEPP PROJECT PDD 03 03 2011_track change          53_board decision page          65_Board Decision page 1          66_Construction permission          67_approval of commissioning          67_loan agreement</p>			

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 02/05/2011
<p>PDD v02 page 3: The document loan agreement for which the PP provided the last page with the date could not be found in the provided documents. Please send a copy of the document. The point remains open.</p> <p>PDD v02 page 3: The PP provided the construction permission /66/ as an evidence for the start of construction. This is generally accepted. But the provided document is difficult to read. The signing at the bottom of the page was done probably at 03.05.2009. Please explain and please provide a better copy. The point remains open.</p> <p>PDD v02 page 3: The commissioning approval was provided as an evidence for the commissioning date. The evidence is accepted. The point is closed.</p> <p>PDD v02 page 3: Date has been corrected. The point is closed.</p> <p>PDD v02 page 3: The date of the first consideration of carbon credits was added to the table. The evidence /53/ is accepted. The point is closed.</p> <p>LA 25/05/2011:</p> <p>PDD v02 page 3: The PP provided the complete document loan agreement /80/. The date 10/04/2008 could be confirmed. The point is closed.</p> <p>PDD v02 page 3: The PP provided a better copy of the construction permission /81/. The date is now readable and 21/03/2008 could be confirmed. The point is closed.</p> <p>CAR04 was closed out.</p>	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 25/05/2011

<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann		
<b>Type:</b>	CL	<b>Number:</b>	05	<b>Reference:</b>	GS review 2 Table A.2.

<b>Lead Assessor Comment:</b>
Consideration of Carbon revenues. The PP provided a board decision with front page. The officially approved front page shows a date from 1993. Please explain.

<b>Project Participant Response:</b>	<b>Date:</b> 11/04/2011
<i>Two pages of board decision book have been provided. First page referred above is the date of establishment of company whereas the second page contains decision about consideration of carbon revenue.</i>	

<b>Documentation Provided by Project Participant:</b>
<i>Board Decision page 1 and page 2</i>

<b>Information Verified by Lead Assessor:</b>
65_Board Decision page1 53_board decision page

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 02/05/2011
The explanation of the PP is reasonable and in compliance with the documents. CL05 was closed out.	

<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 02/05/2011
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<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann		
<b>Type:</b>	CAR	<b>Number:</b>	06	<b>Reference:</b>	B.1.

<b>Lead Assessor Comment:</b>
PDD v02 page 7: Not all eligibility criteria of AMS I.D. ver 14 are addressed. Please refer also to points 4 and 5 of the eligibility criteria of AMS I.D. ver14.

<b>Project Participant Response:</b>	<b>Date:</b> 03/03/2011
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*Points 4 and 5 are not related to project activity but a statement has been added for both issues in version 3.*

*PP Response 09/05/2011*

*It has been added that the project will not cause any new reservoir. The pictures given in passport shows the reservoir after implementation of the Project and demonstrates that no new flooded area forms even when the reservoir is full*

**Documentation Provided by Project Participant:**

ARALIK HEPP PROJECT PDD 03 03 2011 track change

**Information Verified by Lead Assessor:**

ARALIK HEPP PROJECT PDD 03 03 2011 track change

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 02/05/2011

Statements to the missing applicability criteria 4 and 5 are added and accepted. A statement for the eligibility criteria of point 3 for hydro power plants is still missing. Please revise.

CAR06 remains open.

LA 25/05/2011: The applicability criteria about the reservoir for HEPPs is addressed since AMS I.D v.15. Since version 14 is valid for this project the applicability criteria do not have to be discussed in detail. The comment on page 7 of the PPD version 04 was accepted as correct and sufficient.

CAR06 was closed out.

**Acceptance and Close out by Lead Assessor:**

**Date:** 25/05/2011

Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	CAR	Number:	07	Reference:	Table B.4. GS review 2.2

**Lead Assessor Comment:**

Investment analysis is not in accordance with "Guidance on the Assessment of Investment Analysis":

- a. Please include an explanation, why the residual value after 46 years is zero from the perspective of the project proponent.
- b. The benchmark was calculated by a sample of turkish government bonds in the time frame 17.04.2007 until 04.09.2007. The date of the investment decision was identified as the date of the purchase agreement for the turbines 27.07.2007. Five values of the samples are dated after the date of the investment decision. Please correct.
- c. Please add the Euro Bond rates of the time before the investment decision as a backup for the Turkish government bond rate.
- d. Please provide evidence for estimation of staff cost and gird fee. Please also include information on the calculation of VAT.
- e. The date of the investment decision is one year later than the issuing date of the feasibility report. Please provide evidence that the cost figures from the feasibility report are still valid at the time of the investment decision.
- f. Please provide evidence for the historical trends of tariffs for electricity on open markets in the time frame from the investment decision until two years later.
- g. PDD v02 page 9: Sample of bond rates includes values that are younger than 27.07.2007 (date of investment decision). Please correct.
- h. PDD v02 page 9: Please add references for table 3.
- i. PDD v02 page 10: Please provide evidence for expected VER price.
- j. PDD v02 page 10: Link 13 shows only main page. Selection of parameter for 2010 is not running. Please give explanation how to handle the website.
- k. PDD v02 page 11: Value for +35% fluctuation for electricity income not correct. Please correct.
- l. PDD v02 page 12: For discussion of outcome of sensitivity analysis please refer precisely to the highest values in the sensitivity analysis and compare with benchmark.

The required corrections could change the calculation significantly. Please also correct all the depending tables and texts in the PDD accordingly.

**Project Participant Response:**

**Date:** 11/04/2011

- a. *The license is issued for 49 years from date of issuance (15/06/2006) therefore operational lifetime becomes 45 years after commissioning (30/04/2010). When the license period is completed, the plant is delivered to government at no cost. Therefore, value for project owner is "0" A statement is available in section c.1.2 for lifetime of the plant.*
- b. *5 bond rates issued after investment decision date have been excluded*
- c. *€bond have not been added as GS also makes similar comments when €bond is used. Instead, a reference has been given to WB study referred by GS and a discussion has been added to demonstrate that even if we consider WB study (15%) as reference, project equity IRR is below the benchmark as agreed with GS.*
- d. *For staff cost, payroll from another project of project owner has been provided which shows monthly payment as 30,634TL. For Grid fee, the document "operating cost" includes two invoices for zero residual item correction factor and reference for distribution fee VAT is not paid for import items. Since there is no local manufacturer for turbines, it has been assumed that no VAT will be paid for EM equipment.*
- e. *Investment summary audited by an independent accountant has been provided which gives total investment cost as 29.47M TL which is more than the figure given in investment analysis.*
- f. *A reference has been provided. However, the financial analysis has been based on guaranteed price rather than actual market price as justified in PDD.*
- g. *Sample group updated*
- h. *References have been added where available*
- i. *References has been added*
- j. *The page has been updated by TEIAS so the reports are not available .The data had been confirmed by auditor earlier for another project. Also, a summary of prices is sent as (Average Market Price)supplementary reference. The prices can be accessed via free membership at <http://e-pmum.com/Raporlar/tabid/55/language/tr-TR/Default.aspx> also.*
- k. *Value has been corrected.*
- l. *Discussion has been added considering lowest IRR also.*

*PP Response 09/05/2011*

*d. There exist no such document at time of investment decision since there is more than two years time for commissioning and recruiting these staff. It is based on expert judgement. The payroll belongs to the same group of company only the company name is different. It has been provided to demonstrate that the figures used are realistic. It is not used for source as estimation.*

*Residual item correction factor and distribution system charge fee has been calculated based on previous projects of the investor. The evidences may not be available but they have been provided for justification of the figures used to show that the figures used are realistic.*

*e. Provisional acceptance document has been submitted which shows the investment cost as 20million\$ as additional evidence.*

*k. Excel sheet corrected also*

*l. The sensitivity analysis has been detailed referring to best case scenario and realized investment figure.*

*PP Response 01/06/2011*

*The FSR is dated november 2006 where as signature date is July 2007 hence much less than one year. It is not actual to update figures in such a short time. FSR investment figures includes contingency which is fort his type of issues. Plus, realized costs have been submitted which shows that FSR figures are conservative.For staff and other costs, company has estiamted the figures based on Expert judgement as they employ engineers and technicians in many plants and have a broad knowledge of rates. The documents submitted are from another hydro power plant of the project owner. They submitted to demonstrate that the figures are realistic. IT is not reasonable to request an evidence by mid 2007 for staff who have been recruited by spring 2010.*

<b>Documentation Provided by Project Participant:</b>	
<i>Operating Cost Payroll page 1 and 2 Average Market Price</i>	
<b>Information Verified by Lead Assessor:</b>	
<i>(Explain how the information was verified)</i>	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date: 02/05/2011</b>

- a. The explanation of the PP in relation to the residual value is accepted. The point is closed.
- b. The five government bonds with a maturity date after the 27.07.2009 were deleted from the sample. Calculation of the mean is ok. The point is closed.
- c. The references of the PP to the world bank documents with benchmarks of 15 % and 16% to 20 % were accepted. This benchmark was not partly not available at the time of the investment decision but the discussion of the PP that even with the lowest defined benchmark of 15% the project will not be financial attractive was accepted. The point is closed.
- d. The reference for the staff costs is a payroll from another company Turkon-MNG from February 2010 /73/74/. Because the date of the document is after the investment decision the document is not applicable as a source for the estimation of the staff costs for the investment calculation. It can be taken as hint that the staff costs are reliable. Please provide a document dated before the time of the investment decision.

The document operation costs which show the reliability of the cost estimation for the zero residual item correction factor are dated from November and December 2009. The residual item correction factors lie with 7.7 € and 11 € per MWh slightly above and below the estimated value of 9 € per MWh. The references back up the estimation but they were not available at the time of the investment decision. Please provide documents at the time before the investment decision.

The evidence document for the grid fee is dated from April 2009. The value of the grid fee of 1.335 YTL/kWh is in compliance with the figure in the investment calculation. But this document also was not available at the time of the investment decision. Please provide evidences from the time before the investment decision.

The explanation of the PP for the estimation of the VAT is plausible and accepted. The VAT value of 18% is confirmed by independent sources from the internet. The point is closed.

- e. An investment summary audited by an independent accountant was provided as evidence for the applicability of the cost figures from the feasibility report. The date of the document was not readable. It is not clear if this is the only page or if also a more detailed list of investment cost figures were audited. It is not clear what was audited, the calculation or the correctness of the total sum including the cost estimations. It is also not clear why the investment calculation of the company was based on the lower figures when audited figures were at hand. It is more conservative for the VER validation but from the financial point of view it makes no sense. Even if all open were answered satisfyingly it is doubtful that this document can serve as an evidence that the investment cost figures of the feasibility are valid at the time of the investment decision. Please provide reliable evidence.
- f. It is accepted that the investment calculation is based on the guaranteed price but the fluctuation of electricity prices are relevant for the variation of the sensitivity analysis. As evidences two documents about average electricity prices were provided, one with data from 12.2008 to 07.2009 /78/ and one with data from 01.2007 to 10.2009 /77/. Reference /77/ shows the price fluctuations in the time before the investment decision. The meaning of the three different data lines in the upper graphs is not clear. Please provide more information. The data shows that the price rises in the first seven months of 2007 only slightly above 100 USD/MWh. That is related to a price of 7.3€ct. The range of the sensitivity analysis is with 35% higher than this maximum price in 2007. The reference is accepted. The point is closed.
- g. PDD v02 page 9: The sample of bond rates was corrected. The point is closed.
- h. PDD v02 page 9: References are added to table 3. References were checked. Open points are listed in other subclauses of the CAR. This point is closed.
- i. PDD v02 page 10: Evidence for expected VER price is given with reference 76. The source was checked and accepted. The point is closed.
- j. PDD v02 page 10: Link is ok. Selection of monthly parameter as shown in the reference /75/ operation cost reference is unclear. With reference /77/ the cost data from January 2007 to July 2007 and later were provided. The data were accepted. The point is closed.
- k. PDD v02 page 11: Value for +35% fluctuation for electricity income is corrected in PDD. The 26\_confidential Aralik Financial Model\_22112010 has also to be corrected. The point remains open.
- l. PDD v02 page 12: Please name precisely the highest IRR in the sensitivity analysis and name the corresponding electricity price. Please also add a discussion of the best scenario with the maximum IRR and a consideration of its likelihood. The point remains open.

CAR07 remains open.

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date: 25/05/2011</b>
<p>d. The DOE has to validate that the input values for the investment calculation were valid at the time of the investment decision. The provided documents were dated after the investment decision and can not be used for the validation of the input figures. Please provide suitable evidences for the staff cost, the zero residual item correction factor and the grid fee. Please provide evidences from the time before the investment decision. The point remains open.</p> <p>e. The evidence for the investment costs is dated 04/03/2010 and refers to investment costs of 20.000.000 \$. It is not comprehensible how this document shall provide evidence that the investment cost figures of the feasibility report which sums up to 15.129.945 \$ (without interest) were still valid at the time of the investment decision. On the other hand are the input figures of the investment calculation not the same as the investment cost figures from the feasibility report. Please explain in detail for each cost figure of the investment analysis why it has changed and why it was still valid after a year. And back this up with references like price index or inflation rates.</p> <p>k. PDD v04 page 11: Value for +35% fluctuation for electricity income is corrected in 26a_confidential Aralik Financial Model_22112010. The point is closed.</p> <p>l. PDD v04 page 13: Text passage with the discussion of the best case scenario was added. The discussion is reasonable and backed up with evidence. The point is closed.</p> <p>CAR07 remains open.</p> <p>RW 07/06/2011:</p> <p>d. Staff + Contingency – Value is in line with other Turkish projects from this time frame        Grid loss factor – Based on TEIAS data from 2006        Residual Balance Adjustment coefficient – Based on 2007 values from www.pmum.teias.gov.tr        Distribution System Charge – Based on TEDAS data from 2007 /103/        Transmission System Charge – Based on EPDK data /104/.        The references were accepted. The point was closed out.</p> <p>e. The statement of the PP is true. The time difference between the FSR and the investment decision is roughly 8 months from November 2006 to July 2007. This time frame is short enough to ensure that the cost figures from the feasibility report were still valid at the time of the investment decision. This evaluation was backed up by the actual investment costs provided by the PP.</p> <p>CAR07 was closed out.</p>	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date: 07/06/2011</b>

Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	08
		Reference:	Table 2 B.4.
<b>Lead Assessor Comment:</b>			
<p>In the common practice analysis evidence for the statement of the owner of Tanta HEPP is missing. Please provide evidences.          PDD v02 page 13: The share of generation capacities for private generation companies that are neither BOT or autoproducers in relation to the total generation capacity of 0.003 % is not correct. Please revise.</p>			
<b>Project Participant Response:</b>		<b>Date: 11/04/2011</b>	

<p>Link has been updated. Ownership is also seen here  <a href="http://www.bmholding.com.tr/index1.php?CatId=602&amp;topCatId=509&amp;upCatId=509&amp;satrs=1&amp;sayrs=25&amp;LId=2">http://www.bmholding.com.tr/index1.php?CatId=602&amp;topCatId=509&amp;upCatId=509&amp;satrs=1&amp;sayrs=25&amp;LId=2</a>          ).          The common practice analysis shows that most of the plants have either been built via other investment models or benefit from carbon revenue except Tahta HEPP. Hence it clearly shows that building a IPP HEPP without carbon revenue with the same investment model is not a common practice.</p> <p>The percentage has been revised as 0,03% which ratio of Tahta and Basaran HEPP generation capacities(59GWh) to total generation capacity of Turkey (191,555.1)</p>	
<b>Documentation Provided by Project Participant:</b>	
ARALIK HEPP PROJECT PDD 03 03 2011 _track change	
<b>Information Verified by Lead Assessor:</b>	
ARALIK HEPP PROJECT PDD 03 03 2011 _track change	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 02/05/2011
<p>The link <a href="http://www.bmholding.com.tr/index1.php?CatId=140&amp;LId=2">http://www.bmholding.com.tr/index1.php?CatId=140&amp;LId=2</a> as corrected in the PDD and the <a href="http://www.bmholding.com.tr/index1.php?CatId=602&amp;topCatId=509&amp;upCatId=509&amp;satrs=1&amp;sayrs=25&amp;LId=2">http://www.bmholding.com.tr/index1.php?CatId=602&amp;topCatId=509&amp;upCatId=509&amp;satrs=1&amp;sayrs=25&amp;LId=2</a> refer to the Tanta Hepp. The evidence that the plant is owned by BM Holding A.S. and that Özgür Elektrik Üretim is a subsidiary of the Holding is accepted as sufficient. The point is closed.          The figure for the share of generation capacities for private generation companies is corrected to 0.03 %. This figure is correct. The point is closed.          CAR08 was closed out.</p>	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 02/05/2011

<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann
<b>Type:</b>	CAR	<b>Number:</b>	09
		<b>Reference:</b>	Table B.4. B.5.
<b>Lead Assessor Comment:</b>			
<p>The selection of the most recent available data vintages refer for all relevant chapters of the PDD to 2007. The submission of the documents to GS was 09/2009. Therefore the data for 2008 should have been already available.</p> <p>Please refer to the most recent available data for the references          2/6/7/14/15/17/18/20/21/23/24/25/26/27/28/29/30/31/32/33/34/39/42/43/44.</p> <p>PDD v02 page 15: The five most recent years for table 4 Share of low-cost / must-run sources would have been 2008,2007,2006,2005,2004. Please correct.</p> <p>PDD v02 page 15 -16: Data source for <math>EG_{y, Total}</math> , <math>FC_{i,y}</math> , NCV should be 2008. Please correct.</p> <p>PDD v02 page 17: Data vintage for table 5 should be 2008, 2007, 2006, 2005, 2004. Please correct..</p> <p>PDD v02 page 18: Data vintage for operation margin emission factor should be 2008, 2007, 2006. Please correct.</p> <p>PDD v02 page 20: The most recent capacity additions should relate to the generation in 2008. Please revise.</p>			
<b>Project Participant Response:</b>		<b>Date:</b> 11/04/2011	
<p>The documents have been uploaded to registry on 18/08/2009. The 2008 data vintage were not available at that time. TEIAS published data usually by November or October earliest for previous year. Therefore, the data vintage is left as 2007 being the most recent year.</p>			
<b>Documentation Provided by Project Participant:</b>			
<b>Information Verified by Lead Assessor:</b>			
<a href="http://www.teias.gov.tr/istatistik2009/index.htm">http://www.teias.gov.tr/istatistik2009/index.htm</a>			
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>		<b>Date:</b> 02/05/2011	
<p>By checking the document history of the excel files on the TEIAS website (<a href="http://www.teias.gov.tr/istatistik2009/index.htm">http://www.teias.gov.tr/istatistik2009/index.htm</a> ) the statement of the PP that the documents were published in October or November could be confirmed. The data vintage is correctly chosen.          CAR09 was closed out.</p>			

<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 02/05/2011
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Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	CAR	Number:	10	Reference:	GS review 7.4 Table b.5.

**Lead Assessor Comment:**

GS comment: PDD, page 17: Please revise formula (1) as it is unreadable.

LA: Formula (1) is still unreadable in the clean version of the PDD. Please revise.

<b>Project Participant Response:</b>	<b>Date:</b> 11/04/2011
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*Formula has been given as text in version 3.*

*PP Response 09/05/2011*

*The formula has been pasted as picture in revised version of PDD.*

**Documentation Provided by Project Participant:**

*ARALIK HEPP PROJECT PDD 03 03 2011\_track change*

**Information Verified by Lead Assessor:**

ARALIK HEPP PROJECT PDD 03 03 2011\_track change

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 29/04/2011
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The formula is not correct in the PDD. Please correct the equation.  
 CAR10 remains open.

LA 25/05/2011:

The formula is corrected in PDD version 04. The point is closed.  
 CAR10 was closed out.

<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 25/05/2011
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Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	FAR	Number:	11	Reference:	B.10

**Lead Assessor Comment:**

The existence of two electrometers should be checked during the first verification.

<b>Project Participant Response:</b>	<b>Date:</b> DD/MM/YYYY
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*Ok*

**Documentation Provided by Project Participant:**

**Information Verified by Lead Assessor:**

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> DD/MM/YYYY
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<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> DD/MM/YYYY
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Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	CAR	Number:	12	Reference:	B.10

**Lead Assessor Comment:**

PDD v02 page 27: The exact location of the meters is not clear from the prescription in the PDD. Please define exactly the location of the meters.

PDD v02 page 27: The failure range of the meter readings is not clear from the description in the PDD. Please add a short discussion about the failure range and include the maximal acceptable differences for the meter readings of the two meters.

PDD v02 page 25: You monitor the values  $Cap_{PJ}$  and  $AP_J$  although you do not mention in the PDD the calculation of the power density of the power plant. Please follow the methodology and revise the PP.

PDD v02 page 25: Monitoring table for  $AP_J$ . Statement that no reservoir is created is in contradiction to the measurement procedures above. Please revise the PP according to the requirements of the methodology.

**Project Participant Response:**

**Date:** 11/04/2011

- *It has been indicated that meters will be in the powerhouse.*
- *The meter readings will be installed as required by TEIAS. The regulation on meters has been referred in PDD. The standards to be complied have been defined in the regulations<sup>2</sup>.*
- *We state that no new reservoir will be formed and we have added a picture of reservoir after project is commissioned. However, since it is required by meth. We have added a monitoring item to demonstrate that reservoir is not extended or capacity is not increased. The statement is not against the tool.*

*PP Response 09/05/2011*

*It has been stated that no new reservoir is formed due to project activity.*

*Accuracy class and name of the meters have been defined. Brochures and test records have been submitted with this document.*

**Documentation Provided by Project Participant:**

*ARALIK HEPP PROJECT PDD 03 03 2011\_track change  
 metering tests  
 elster A1500\_Flyer\_E3[1]*

**Information Verified by Lead Assessor:**

*ARALIK HEPP PROJECT PDD 03 03 2011\_track change*

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 29/04/2011

PDD v02 page 28: The exact location of the meters is defined in the PDD. The point is closed.

PDD v02 page 27: The relevant point is what kind of meters are actually installed. Please name the accuracy class of the meters and specify the maximal acceptable differences for the meter readings of the two meters and the resulting failure range. The point remains open.

PDD v02 page 25: The statement of the PP about the parameters  $Cap_{PJ}$  and  $AP_J$  is correct. AMS-1.D refers to ACM0002 for reservoir of hydro power plants. Nevertheless the discussion about the power density of the project is missing in the PDD. This is also requested by AMS-1.D. Please revise. The point remains open.

PDD v02 page 25: Monitoring table for  $AP_J$  is correct. The data will be collected yearly and checked during the verification. The point is closed.

CAR12 remains open.  
 LA 25/05/2011:

PDD v04 page 25: In version 04 of the PDD the type of the meter and the accuracy class of S 0.5 is mentioned and the PP provided the data sheet for the meter /82/ and calibration protocols /83/. With these information the accuracy of the meter readings is sufficiently specified. The point is closed.

PDD v02 page 25: The discussion about the power density of the project is not requested in version 14 of the AMS I.D. Therefore the comment in the parameter table for  $AP_J$  is accepted as sufficient. The point is closed.  
 CAR12 was closed out.

**Acceptance and Close out by Lead Assessor:** **Date:** 25/05/2011

Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	CAR	Number:	13	Reference:	GS review 1.1

**Lead Assessor Comment:**

GS comment: GS eligibility criteria for hydro power plants is the also table C-2. This table was added in the PDD v.02 as annex 6. Some points have to be corrected.

LA

Please provide evidences for each quantitative or qualitative statements in the table.

For example:

Minimum flow sufficient

No lateral rivers

Depth of fish passage

etc.

In section sediment management point 4 the reader gets the impression that sediments are accumulated below the weir until the next flood season. Please explain

Protection of animals is also directed on aquatic animals (turbines, water intake'). Please revise

**Project Participant Response:** **Date:** 11/04/2011

*The flow is determined by relevant government agencies. It has been submitted that assessment will be made by an expert.*

*There is no other evidence other than pre-EIA and FSR for this. OT should also have been assessed during site visit. Project is not a dam type Hepp. It includes just a weir for diversion. Water is fed to same river. If necessary a FAR can be raised.*

*The statement about depth of fish passage has been removed and it has been indicated that an expert assessment will be conducted to ensure functionality.*

*Accumulation is not preferred by project owner also. The statement had been added to indicate that project only uses a small portion of average flow and no accumulation is expected. IT has been removed in version 3 to prevent confusion.*

*PP Response 09/05/2011*

*-Reference for 10% Added*

*-The creeks referred are connected after the weir so there is nothing related to connectivity of lateral rivers in that respect. Project weir is very small so it will not have any impact in that respect. A clarification has been added to table c.2*

*-The project is implemented on a small river with steep walls as seen in pictures so there exists no floodplain. Project weir only functions for diversion purposes, it does not have any storage volume which will cause impact on flood plain.*

*-IT has been added that there exists filters to prevent fish species entering the turbine.*

*-Clarification expropriation has been added.*

**Documentation Provided by Project Participant:**

*ARALIK HEPP PROJECT PDD 03 03 2011\_track change*

**Information Verified by Lead Assessor:**

*(Explain how the information was verified)*

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 29/04/2011

Please provide evidences for each quantitative or qualitative statement in the table.

Management Domain, point 1: Reference for 10% minimum flow.

Management Domain, point 3: In the justification section of the passport two springs are mentioned with a reference to FSR/preEIA. Please revise the discussion about lateral rivers accordingly and add the references with page number please.

Management Domain, point 8: Please make a clear statement if there are any floodplains between dam and power house because these are the only ones that could be affected. With reference if possible.

Power Pland Design, point 1: Please discuss the protection of aquatic animals (fish) against danger from turbines, water intakes,

Social Impacts, point 5: Please refer to expropriation decision.

The discussions about minimum flow and depth of fish passage are sufficient now. These points are close.

CAR13 remains open.

LA 25/05/2011:

Management Domain, point 1: The given reference is a general agreement. It is defined that 10% of the average flow should pass through the weire as minimal flow.

Management Domain, point 3: In the justification section of the passport two springs are mentioned with a reference to FSR/preEIA. An additional explanation is added to the section lateral and vertical connectivity. This is accepted.

Management Domain, point 8: The PP added a clear statement that no floodplains exists between dam and power house. This can be confirmed by the site visit and pictures from the site.

Power Pland Design, point 1: The PP added a statement about filters which will be installed befor the turbines.

Social Impacts, point 5: The PP added a statement about the expropriation of a derelict house near the weir. This description is in line with the observation during the site visit and the provided documents.

CAR13 was closed out.

<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 25/05/2011
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Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	CL	Number:	14	Reference:	GS review 4.1

**Lead Assessor Comment:**

Do-No-Harm Assessment.

SP8: The discussion of health and safety concerns is not sufficient. Please specify the risks that the workers will face by working for the project.

SP10: The discussion should be more substantiated. Please discuss if the affected habitats are unique within the area.

SP11: Please extend the discussion about corruption. Please include possible opportunities for corruption during the project realization as license issuances or expropriation decisions and their legal background.

GS passport v02 page 13: For safeguarding principle 2 please refer to expropriation decision. Please explain the entry in the expropriation document page 10 line 3, in which a house is mentioned.

<b>Project Participant Response:</b>	<b>Date:</b> 11/04/2011
<p><i>SP8: Further detail has been added.</i></p>	
<p><i>SP10: It has already been indicated that there exist no endemic species with reference to EIA. Also, impact on biodiversity has been discussed in detail in justification section.</i></p>	
<p><i>SP11: Corruption is illegal. Turkey is party to international agreements about corruption as referred in passport. I don't think that it within the scope of GS or DOE to request further clarification since it is an criminal issue and naturally it is not possible to obtain any document which is not public.</i></p>	
<p><i>GS passport v02 page 13: The land owner in expropriation documents (Cumhur Ali Kucukhas) is the manager of the construction project. In order to accelerate the process, project owner has mutually agreed with land owners and purchased the lands. Later, the land has been expropriated for the project officially. Since the house was not usable, due to risk of collapsing, it has been partially renovated and used during construction.</i></p>	
	
<p><b>Documentation Provided by Project Participant:</b></p>	
<p><i>GSv2.1_Passport_Template_aralik_clean copy</i></p>	
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<p><b>Information Verified by Lead Assessor:</b></p>	
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<p><b>Reasoning for not Acceptance or Acceptance and Close Out:</b></p>	<p><b>Date:</b> 29/04/2011</p>

SP8: The discussion of health and safety concerns is more detailed and refers to the work with high voltages. Discussion and mitigation measures were accepted. Point is closed.

SP10: The discussion was revised. The reference to the pre-EIA is correct and reliable. A further discussion for biodiversity is detailed in the SD matrix. According to the observations during the site visit this kind of river habitats are quite common in the region. The point is closed.

SP11: The explanation of the PP was evaluated as sound and correct. Further discussion and evidences about this safeguarding principle would not be requested any more. The point is closed.

GS passport v02 page 13: For safeguarding principle 2 the PP referred in his discussion to the expropriation decision and explained that the expropriated house belongs to the project manager. This was confirmed by checking the expropriation decision. The point is closed. please refer to expropriation decision. Please explain the entry in the expropriation document page 10 line 3, in which a house is mentioned. The point is closed.

CAR14 was closed out.

**Acceptance and Close out by Lead Assessor:** **Date:** 29/04/2011

Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	CAR	Number:	15	Reference:	GS review 4.2
<b>Lead Assessor Comment:</b>					

SD Matrix:

1. GS passport v02 page 15: Indicator Other Pollutants: You did not include waste and sewage management. Please revise. Please name regulation for oil disposal and provide the document or a working link.
2. GS passport v02 page 15: Indicator Biodiversity: Please include expert study as a monitoring plan. Relevant aspects for monitoring a fish passage are the detectability and the passableness for the fish species in the river. Methods are counting by counting devices, fish traps or disabling by electric shock. Please discuss these possibilities and name references.
3. GS passport v02 page 17: SD matrix. For indicator Water quantity/quality please add waste water as a parameter.
4. GS passport v02 page 17: SD matrix. Why do you list the baseline of the parameter in the parameter column? If you add the baseline for the parameters you have to do it for all. Please only name the parameter and give a short explanation why this parameter is suitable for the indicator.
5. GS passport v02 page 20: Indicator Livelihood of the poor. Number of locally recruited staff is not a suitable parameter. Please check if the contributions of the PO to the local communities are a suitable parameter?
6. GS passport v02 page 23: Justification for water quality and quantity. Please explain what is meant with firm flow. Please explain where the 2.5 m<sup>3</sup>/s flow rate comes from which is the basis for the calculation of the minimum flow for turbine operation. In section 2.1.4 in FSR only 0.1 m<sup>3</sup>/s of water is mentioned. Please explain.
7. GS passport v02 page 23: Justification for water quality and quantity. You made no statement about minimal flow. Definition of minimal flow, the relevant regulation, who and how it will be measured and the control of the data. Please discuss these points.
8. GS passport v02 page 24: Justification for parameter Soil condition. Please provide regulation dated 02/09/1997 or make a reference link. Please name regulations for the disposal of waste and provide the document or add a reference link. The last sentence in the section is incomplete. Please complete.
9. GS passport v02 page 24: Justification for parameter Other pollutants. You are discussing only noise please discuss also dust emissions and refer to pre-EIA with page number. Discuss the monitoring or not monitoring of the parameter here. Please provide reference for "Solid waste control regulation". Please name regulations for disposal of waste oil.
10. GS passport v02 page 25: Justification for parameter Biodiversity. Discussion about amount of minimum flow regarding share and total amount is missing. Please add. Add expert statement to monitoring tables.
11. GS passport v02 page 26: Justification for parameter Quality of Employment. Please define if regular training updates will be done.
12. GS passport v02 page 27: Justification for parameter Quantitative employment and income generation. Please add estimation or the actual share or locally employed people.

Project Participant Response:	Date: 11/04/2011
<ol style="list-style-type: none"> <li>1. <i>Waste management is available under other pollutants indicator. Sewage management is available under water quality/quantity indicator. Name and numbers of regulations for waste oil has been added.</i></li> <li>2. <i>This is not required by GS. The method will be decided after registration with an expert on the subject. This not required to be indicated now. It will be assessed by expert which parameters should be checked and which method will be used. Using traps or electric shock is illegal and requires extensive permission and procedures as it involves research on living things and can damage fish species.</i></li> <li>3. <i>Added</i></li> <li>4. <i>This is requested by GS. Only missing baseline was tech transfer. It has also been added.</i></li> <li>5. <i>The parameter has been revised according to GS toolkit.</i></li> <li>6. <i>Firm flow is the flow available during 95% of the time<sup>3</sup>. It is used to calculate reliable electricity generation potential. Total design flow rate is 5 m<sup>3</sup>/s so each unit is 2.5 m<sup>3</sup>/s (page 4-6 of FSR).</i></li> <li>7. <i>Definition and statement has been added together with reference of regulation.</i></li> <li>8. <i>The numbers of regulations for waste disposal have been provided. The regulations are applied by relevant local agencies. They are already identified and referred in pre-EIA. Relevant laws are already defined under section B.5 As there may be tens of regulations related to the project, it is not practical and within the scope of the validation process.</i></li> <li>9. <i>Dust formation has been discussed.</i></li> <li>10. <i>Discussion has been added. Monitoring item contains statement about expert assessment.</i></li> <li>11. <i>There exist no planned regular update. Project owner will organize trainings for new staff and also if necessary for existing staff.</i></li> <li>12. <i>It has been indicated that four staff is expected to be recruited but it depends on finding local staff with relevant qualification so it is not a commitment.</i></li> </ol>	
<b>Documentation Provided by Project Participant:</b>	

<sup>3</sup> [www.retscreen.net/download.php/ang/109/.../Textbook\\_HYDRO.pdf](http://www.retscreen.net/download.php/ang/109/.../Textbook_HYDRO.pdf)

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PP Response 09/05/2011

1. These are referred in Pre-EIA. There exists hundreds of regulations, laws etc which may be related to the project activity. The reference for the regulations referred are pre-EIA document. It is not within the scope of DOE. DOE can may a desk review but it will not make any sense. These issues are within the scope of relevant institutions.

4. Soil erosion and sediment are added to baseline in matrix.

8 Regulation number also added. Full text is accessible quick search in internet.

9. Regulations are referred in Pre-EIA. Full texts are not given but they are available in internet via quick search.

**Information Verified by Lead Assessor:**

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**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 29/04/2011

6. GS passport v02 page 15: Indicator Other Pollutants: Waste management is included. Sediment management is included under the indicator soil condition. In the justification section the PP refers to the regulations for control of dangerous wastes, for petroleum and waste oil. Links or copies of these documents were not provided. The point remains open.
7. GS passport v02 page 15: Indicator Biodiversity: The explanation of the PP that the monitoring will be defined after the expert study was finalized was accepted. The point is closed. .
8. GS passport v02 page 17: SD matrix. For indicator Water quantity/quality waste water was added as a parameter. Point is closed.
9. GS passport v02 page 17: SD matrix. It is correct that you have to discuss the baseline. But from my point of view this belongs in the justification section. But in GS toolkit 2.4.2 it is not specified where you have to do it. Therefore the mentioning in the matrix is ok. The addition of the baseline for tech. transfer is accepted. The baseline for soil condition only refers to excavation waste, soil erosion and sediment passage are missing. Please revise, point remains open.
10. GS passport v02 page 20: Parameter “number of locally recruited staff” was omitted. Parameter definition is not in line with GS toolkit annex I. Point is closed.
11. GS passport v02 page 23: Explanation for firm flow added. The flow rate of 2.5 m3/s is the maximum capacity of the turbines. This part of the justification section is clear now and has a reasonable statement that the effects of the plant for the river flow are reduced to a 60% of the year. Point is closed.
12. GS passport v02 page 23: Justification for water quality and quantity. Added discussion about minimum flow is clear and sufficient. Point is closed.
13. GS passport v02 page 24: Justification for parameter Soil condition. No regulation number provided for regulation dated 02/09/1997. No reference links were provided for the other environmental relevant regulations. It is correct that the many regulations are relevant for the project. I am only interested in the regulations that are referenced in the GS passport and the PDD. The Point remains open.
14. GS passport v02 page 24: Justification for parameter “Other pollutants”. The added discussion about dust emission is clear and sufficient. The regulations for “Solid waste control regulation” and for disposal of waste oil are named with regulation number. No links provided. See point 8. The Point remains open.
15. GS passport v02 page 25: Justification for parameter Biodiversity. The added discussion about amount of minimum flow is clear and sufficient. The expert statement is added. . Point is closed.
16. GS passport v02 page 26: The explanation that safety training will be repeated if necessary was accepted as sufficient. The point is closed.
17. GS passport v02 page 27: Justification for parameter Quantitative employment and income generation. An estimation about the actual share or locally employed staff has been added. Point is closed.

The points 1, 4, 8 and 9 remain open. CAR15 remains open

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 25/05/2011

1. GS passport v02 page 15: Indicator Other Pollutants: The regulation for the control of dangerous wastes published in the official gazette no 22387 and circular about oil wastes and used oil published in official gazette no 2240-5249 and 4473-7756 were verified. The point is closed.
4. GS passport v02 page 17: The baselines for soil erosion and sediment passage were added. The point is closed.
8. GS passport v02 page 24: The no. of the official gazette in which the regulation was published was provided. The regulation was checked and found valid. The Point was closed.
9. GS passport v02 page 24: The regulation for “Solid waste control regulation” was issued in official gazette no. 20814 and found valid. The regulations for disposal of waste oil were already checked in point 1. The Point is closed.

CAR15 was closed out.

<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date: 25/05/2011</b>
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Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	CAR	Number:	16	Reference:	GS review 5.1

**Lead Assessor Comment:**

The term 'Local Stakeholder Consultation' should not be used in the context of retroactive projects. Please therefore use the term 'Preliminary Stakeholder Consultation' to refer to this first meeting in the revised project documentation.

In section E.1. of the PDD the term is not corrected and for figure 9 it should be corrected to preliminary.

Please also note that the abbreviation LSC is also not correct. Please correct all relevant phrases in PDD and GS passport.

<b>Project Participant Response:</b>	<b>Date: 11/04/2011</b>
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*The statement has been corrected in PDD and passport.*

**Documentation Provided by Project Participant:**

*ARALIK HEPP PROJECT PDD 03 03 2011\_track change  
 GSv2.1\_Passport\_Template\_aralik\_track change*

**Information Verified by Lead Assessor:**

*ARALIK HEPP PROJECT PDD 03 03 2011\_track change  
 GSv2.1\_Passport\_Template\_aralik\_track change*

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date: 29/04/2011</b>
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The term 'Local Stakeholder Consultation' nor the abbreviation LSC were not found in PDD or GS passport. CAR16 was closed out

<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date: 29/04/2011</b>
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Date:	21/02/2011	Raised by:	Ralph Westermann		
Type:	CAR	Number:	17	Reference:	GS review 5.1

**Lead Assessor Comment:**

GS comment:

Please note that the category codes used in the Invitation tracking table of Section A are not used accurately in all cases. Please ensure that for the second round of consultation, the proper participant codes are used and that all relevant participants are invited as per Table 2.8, page 47, of the GSv2.1 Toolkit.

Please also ensure that the relevant regional offices (if available) of the 5 international GS NGO Supporters (WWF, REEEP, Greenpeace, HELIO International, and Mercy Corps) are invited to comment on the revised project documentation, as well as inviting the relevant Gold Standard regional office (nahla@cdmgoldstandard.org or heba@cdmgoldstandard.org)

LA:

A list with all invited stakeholders for SFR with category is missing. Please provide.

<b>Project Participant Response:</b>	<b>Date: 11/04/2011</b>
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*List of invitees has been added to Annex 2 of Passport.*

*PP Response 09/05/2011  
 Category codes updated.  
 Invitation for GS and supporting NGOs are made by email which is available as screenshot in passport.  
 The email message sent to GS and supporting NGOs have been given in larger size and also provided as separate document to DOE.  
 PP Response 01/06/2011  
 Invitees added to passport.*

**Documentation Provided by Project Participant:**

*List of invitees has been added to Annex 2 of Passport  
 Invitation email*

<b>Information Verified by Lead Assessor:</b>					
<i>List of invitees has been added to Annex 2 of Passport</i>					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 29/04/2011	
<p><i>The category codes still not completely correct. Please check and revise if necessary.</i></p> <ol style="list-style-type: none"> <li>1. Foundation of Wild Life Protection.</li> <li>2. Borcka District Chamber of Tradesman</li> <li>3. Borcka District Municipality Social Support Foundation</li> <li>4. Borcka District Director of Service to the Villages Foundation</li> <li>5. Invitations for regional offices of Greenpeace, Helio and Mercy Corps are missing. Please explain.</li> <li>6. Invitation for GS regional office is not readable in annex 2. Please provide readable copy and add to invitation list.</li> </ol> <p>CAR17 remains open</p> <p>LA 25/05/2011</p> <ol style="list-style-type: none"> <li>1. <i>The category codes for the stakeholders named under 1, 2, 3, 4 are corrected. The invitation mail for GS regional office was provided in a legible version. The invitations are accepted. Please add the missing stakeholders from the email into the invitation list.</i></li> </ol> <p>CAR17 remains open</p> <p>LA 10/06/2011</p> <ol style="list-style-type: none"> <li>1. <i>The missing stakeholders from the email were added into the invitation list in the revised GS passport. The point is closed..</i></li> </ol> <p>CAR 17 was closed out</p>					
<b>Acceptance and Close out by Lead Assessor:</b>				<b>Date:</b> 10/06/2011	
<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann		
<b>Type:</b>	CAR	<b>Number:</b>	18	<b>Reference:</b>	GS review 5.1
<b>Lead Assessor Comment:</b>					
<p>GS comment: Nothing is mentioned about stakeholders who may be potentially affected by the 12 km transmission line.</p> <p>LA:</p> <p>In the latest versions of the PDD and the GS passport the transmission line and the discussion of effects of the transmission line on stakeholders is still missing. It is for this sake not important if the length of the transmission line is 12 or 5 km. According to the system connection agreement the building of the transmission line is in the responsibility of the project owner. Please discuss possible effects for stakeholders.</p>					
<b>Project Participant Response:</b>				<b>Date:</b> 11/04/2011	
<p><i>In article 4.A.1, it is stated that if line capacity is not sufficient and new investment is required by financial resources are not available, the line can be built or financed by project owner if approved by distribution company and the investment amount can be deducted from grid fee. The line is built by project owner but solely for the purpose of achieving connection to the system as soon as possible rather than waiting for government allocation for building transmission line as this process take long time and transmission line may not be ready when the project construction is finished.</i></p> <p><i>Regardless of the issue, the land expropriated by transmission line is owned by government (treasury and directorate of forestry) as seen from expropriation list. Only private land expropriated for the project is near the weir area which has been mutually agreed with land owners and purchased by project manager (cumhur Ali Kucukhas) initially, and than expropriated for the project to accelerate the process.</i></p>					
<b>Documentation Provided by Project Participant:</b>					
<i>Expropriation list.pdf</i>					

<b>Information Verified by Lead Assessor:</b>					
<i>Expropriation list.pdf</i>					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 29/04/2011	
<p>The argumentation of the PP about the transmission is correct. Since the transmission line belongs to TEIAS the project owner has very limited influence on possible effects. No expropriation because of the transmission line is listed in the expropriation file. Beside of expropriation the transmission line will not have any other relevant effect for the stakeholders. And possible objections could have been presented in the preliminary stakeholder consultation. The argumentation of the PP is accepted.          CAR18 was closed out.</p>					
<b>Acceptance and Close out by Lead Assessor:</b>				<b>Date:</b> 29/04/2011	
<b>Date:</b>	21/02/2011		<b>Raised by:</b>	Ralph Westermann	
<b>Type:</b>	CAR	<b>Number:</b>	19	<b>Reference:</b>	GS review 5.2
<b>Lead Assessor Comment:</b>					
<p>GS comments:</p> <p>Second round of consultation. Please note that a site visit is highly recommended. Also, please ensure that for the second round of consultation all points from the Pre-feasibility Assessment are taken into account and discussed as needed with the relevant stakeholders.</p> <p>Please also ensure the following information is included in the revised GS Passport:</p> <p>A summary of stakeholder comments and action taken to resolve the issues.</p> <p>A copy of all postings, flyers or other means used to invite the stakeholders' feedback.</p> <p>A clear list of all meeting attendees, with clear contact details.</p> <p>LA:</p> <p>The site visit was done and photos are added to the passport. No meeting report exists. It can not be validated if all relevant points have been discussed. Please add meeting minutes.</p> <p>No stakeholder comments from the SFR meeting are listed. Please include a list of all stakeholder comments or a clear statement that no comments were received.</p> <p>A copy of an invitation letter for the SFR meeting is added to the passport. No news paper adds or other kind of announcement was provided. Does that mean that the invitations were only done by personal letters and how were the people living in the settlements and nearby the project been invited to the stakeholder meeting.</p> <p>A list of meeting attendees has been added as annex 3. Please add a heading to annex 3. No telephone numbers are provided. Please provide telephone numbers or other contact details that enables us to interview the stakeholders.</p> <p>GS passport v02 page 48. Please provide a translation of the original feedback forms. The text is not readable.</p> <p>GS passport v02 page 11: On the website of GTE no project documents of Aralik could be found. Although for older projects the documents were still provided. Please explain.</p>					
<b>Project Participant Response:</b>				<b>Date:</b> 11/04/2011	

Meeting notes have been added. No question have been raised other than technical details. The meeting has been organized as requested in PFA. No comments have been raised during SFR meeting. The comments raised during preliminary meeting are available in passport.

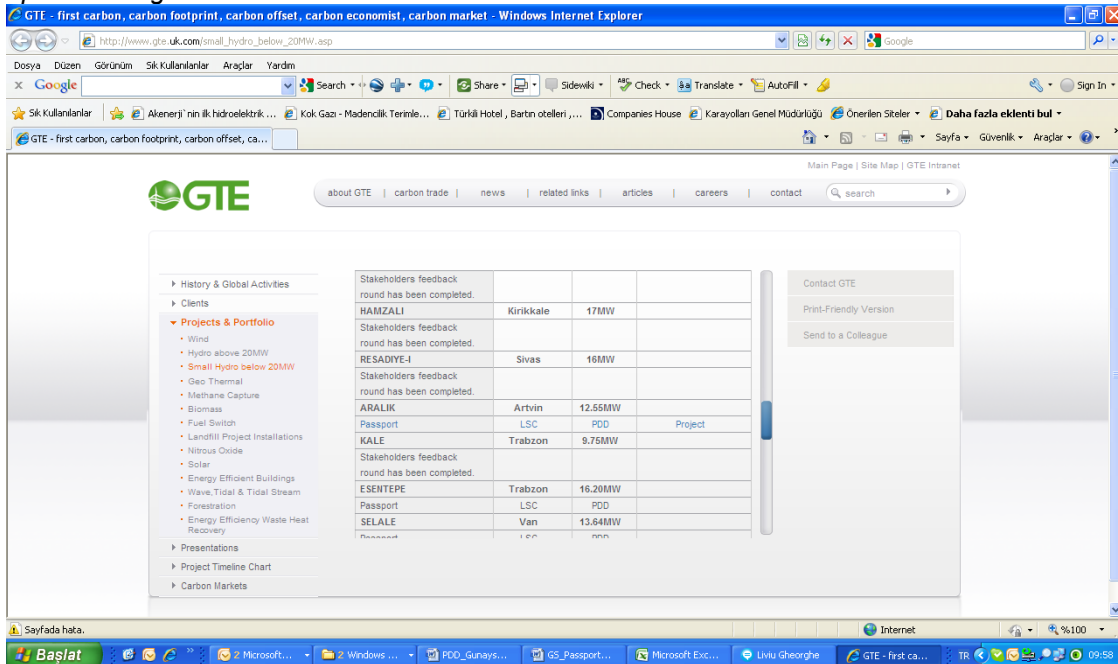
The announcement has been published for two days in newspaper named "7 mart" on 29/04/2010 and 03/05/2010. Scanned pages of newspapers will be submitted to DOE together with this document and included in passport.

The Annex 3 has heading "**SFR Meeting Participant List**". The participant list signed during meeting has been provided to DOE. The contact information is requested in the meeting and in the list. Participants willing to declare their contact info have written their telephone numbers. These numbers are provided to DOE as below but not included in passport as some them contains mobile numbers.

Erkan Atan(DSI) : 90 532 407 12 06  
 Osman Kurtulus (Borcka): 415 13 72  
 Metin Demiral : 535 343 13 15  
 Şeref Şişman (Borcka) 539 292 92 68  
 Özer Şişman (Borcka): 535 448 49 46  
 Nazım Ozer: (Borcka): 532 594 23 48  
 Cagatay Bayramoglu : 533 476 07 97  
 Ibrahim Atan(Aralık): 530 637 11 73

Translation of feedback forms were provided.

The auditor has also been informed when SFR started. These should have been checked at that time. Documents were available for more than 60 days. A screenshot had been saved when the documents are uploaded is given below.



PP Response 09/05/2011

Date of SFR meeting has been added.

<b>Documentation Provided by Project Participant:</b>					
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<b>Information Verified by Lead Assessor:</b>					
GSv2.1_Passport_Template_aralik_track change 63_newspaper ad1 64_newspaperad2 02h_GSv2.1_Passport_Template_aralik_track change					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>				<b>Date:</b> 29/04/2011	
<p>A meeting report was added in section E.2 in the GS passport.</p> <p>The wording in the first paragraph still implies that the documentation will be provided. Please revise.</p> <p>The time frame of the provision on the GTE web page is not mentioned. Please revise.</p> <p>The statement about the comments is unclear. Does it mean that no comments were made or no comments other than those already given in preliminary stakeholder meeting. If the same comments are given again please list them also in the SFR meeting reports.</p> <p>Please discuss the negative comments given in the feedback forms.</p> <p>The date of the SFR meeting is not mentioned. Please revise.</p> <p>Point remains open.</p> <p>News paper adds for the invitation of the local stakeholders to the stakeholder feedback round were provided by the PP /63/64/ and added to the GS passport annex 2. Point is closed.</p> <p>A heading to annex 3 “SFR Meeting Participant List” was added. Telephone numbers of some participants were provided. The point that not for all participants contact details are available was accepted. The point is closed.</p> <p>GS passport v02 page 48. Translations of the original feedback forms of the stakeholder feedback round have been provided. The point is closed.</p> <p>GS passport v02 page 11: A screenshot of the GTE homepage was provided. In the newspaper ads a reference to the GTE website is included. The point is closed.</p> <p>CAR19 remains open.</p> <p>LA 25/05/2011</p> <p>The date of the SFR meeting is added to section E2 of the revised GS passport. The point is closed.</p> <p>CAR19 was closed out.</p>					
<b>Acceptance and Close out by Lead Assessor:</b>				<b>Date:</b> 25/05/2011	
<b>Date:</b>	21/02/2011		<b>Raised by:</b>	Ralph Westermann	
<b>Type:</b>	CAR	<b>Number:</b>	20	<b>Reference:</b>	GS review 6.1/6.2 J.1
<b>Lead Assessor Comment:</b>					

<p>GS comment: Please note that the monitoring plan should include the following:          Any valid mitigation or compensation measures, sensitive concerns, or promised contributions discussed with the stakeholders during the stakeholder consultation that are not already encapsulated in any of the points mentioned above.</p> <p>LA:          No monitoring plan for quantitative income generation. The scoring is switched to zero. But there is a stakeholder comment for this issue. Please revise the monitoring plan.          Monitoring of the promised contributions of the PO for the locals communities listed in PDD page 31 is also missing. See CAR 21</p>			
<b>Project Participant Response:</b>		<b>Date:</b> 11/04/2011	
<p><i>Monitoring item for quantitative income generation has been added.          Contributions given are not promised but the ones already completed at time of preliminary meeting and remembered by project manager. A monitoring item has been added for the voluntary contributions.</i></p> <p><i>PP Response 09/05/2011          Monitoring parameter changed.</i></p>			
<b>Documentation Provided by Project Participant:</b>			
GSv2.1_Passport_Template_aralik_track change			
<b>Information Verified by Lead Assessor:</b>			
GSv2.1_Passport_Template_aralik_track change			
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>		<b>Date:</b> 29/04/2011	
<p><i>The monitoring plan for quantitative income generation has been added. Please correct the parameter to locally recruited staff or percentage of locally recruited staff. And please change the description of parameter situations accordingly. The point remains open.          For the monitoring plan no.11 please see CAR21. The point is closed here.          CAR 20 remains open.</i></p> <p>LA 25/05/2011          The definition of the parameter for the indicator Quantitative Income Generation was changed to locally recruited staff. The future target of the parameter is a total of 4 local recruited employees. The point is closed. CAR20 was closed out.</p>			
<b>Acceptance and Close out by Lead Assessor:</b>		<b>Date:</b> 25/05/2011	
<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann
<b>Type:</b>	CAR	<b>Number:</b>	21
		<b>Reference:</b>	GS review 6.2; J.1
<b>Lead Assessor Comment:</b>			

GS comment: Taking into account the previous point, please kindly update the monitoring plan to include the following:

The promised contributions of KAR-EN mentioned on page 27 of the PDD, along with suitable monitoring parameters in order to ensure the desired positive effect on the local communities.

The stakeholder concerns on disappearance of water streams due to tunneling, and how this will be followed up on.

LA:

These are contributions that are addressed during the stakeholder meeting and are therefore not strictly voluntary any more. Please specify which points are completed and which will be followed during the first verification period. For the points that will be continued please define monitoring parameters.

The point of disappearance of water streams refers obviously to the third comment in the table in the passport.

Please refer in your answer to the comment at the monitoring table.

Please name the regulation which requires 10% minimal flow and provide the document or a link.

Please define in monitoring plan no. 2 to what amount of water the 10% are referring to.

**Project Participant Response:**

**Date:** 11/04/2011

*The contributions are made voluntary there is nothing forcing investor to do this. Listing them in PDD or presentations does not change this fact. These contributions had been discussed under "livelihood of the poor" and scoring was positive due to these contributions however, upon discussion with GS, these have been included from scoring as these were not considered as direct and intended impact of project. Now, we are asked to monitor this which makes them commitment.*

*We couldn't identify any concern about disappearance of streams due to tunnelling. Tunnel will be coated and isolated after excavation. There exists no local staff who may be affected with the tunnelling. However, we added an item to monitor if any springs have disappeared.*

*The list for contributions already completed and represents a part of the contributions. A monitoring item has been added for the issue.*

*Regulation for 10% flow has been added.*

*It has been indicated that minimum 150L/s flow will be released.*

*PP Response 09/05/2011*

*Contributions given in more detail and parameters have been added. The list represent the contributions made until the preliminary meeting so actual contributions are more than those referred. So these are realized ones rather than promises. It is not easy to monitor these as they are usually made during construction and there exist no separate bill for these type of contributions.*

*The website of DSI has been updated so the link was not available. The link regulation from another government site has been provided*

*PP Response 01/06/2011*

*Bullets added and monitoring way explained for each contribution*

*Link has been updated page 8 of previous version of passport. The link in page 18 has been updated also.*

*<http://www.mevzuat.adalet.gov.tr/html/21493.html>*

**Documentation Provided by Project Participant:**

*GSv2.1\_Passport\_Template\_aralik\_track\_change*

**Information Verified by Lead Assessor:**

*GSv2.1\_Passport\_Template\_aralik\_track\_change*

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 29/04/2011
<p>The list of voluntary contributions that are promised to the stakeholders by the PO is addressed in the monitoring plan no. 11. Due to the several different points that are addressed in this list monitoring plans for each single point are not required. But the way of monitoring has to be improved. The checking of employment records for payment is no suitable way to monitor if the promised contributions are completed. Please adjust the way of monitoring and add more suitable evidences like photos, statement of local authorities, bills for special construction material and so on. It has to be clear that the evidences are clearly related to the subject. Please provide a short list of the contributions and the chosen way of monitoring for each item. The point remains open.</p> <p>For the disappearance of the water streams monitoring plan no. 12 has been opened. The monitoring approach is very common and unspecific but the stakeholder comment and the GS comment are difficult to relate to identified impacts of the project activity and so this monitoring approach is accepted.</p> <p>The link to the regulation which requires 10% minimal flow leaks to a server error, file or directory not found. Please revise. The Point remains open.</p> <p>In monitoring plan no. 2 the total amount of minimum flow is correctly defined with 150 l/s. The point is closed. CAR21 remains open.</p> <p>LA 25/05/2011:        The list of voluntary contributions were added to monitoring plan no. 11. Please number the bullet points and add a monitoring tool for each number. For example photo documentation, bill, statement by local authorities etc. The point remains open.</p> <p>Which link was updated. I am addressing the link to dsi on page 18. This link is not updated and is still not working. Please explain. The Point remains open.</p> <p>CAR21 remains open.</p> <p>LA 10/06/2011:        The PP addressed for every voluntary contribution a way of monitoring in monitoring table 11. Nearly every parameter will be monitored by a statement of the local stakeholders and where applicable pictures. This monitoring was found sufficient for the contribution which has been provided. The monitoring will take place once after the end of construction. The point in closed.        The link on page 18 was updated. The referenced document was found valid. The point is closed.</p> <p>CAR21 was closed out</p>	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 10/06/2011

<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann		
<b>Type:</b>	CL	<b>Number:</b>	22	<b>Reference:</b>	GS review 6.3; J.1.
<b>Lead Assessor Comment:</b>					

GS comment: Water quality and quantity. Please briefly define “continuously” for the monitoring of the proposed minimum flow of 150l/s to protect aquatic life. Also, please clarify if water flow will be monitored by the authority, by the Project Developer or by both of them, as in other chapters it is said that the authority will monitor this parameter.

LA:

The present statement in the GS passport is not clear for me.

1. You mean that it is the responsibility of DSI to measure the residual flow and not of the PO?
2. DSI can request the installation of a gauging station, which means that at the moment no gauging station is installed and the residual flow can not be measured?
3. How can the PO guarantee to meet the minimal flow requirements by adjusting gate openings and how accurate is this method?

Please explain.

GS passport v02 page 30: Monitoring table 2. Assessment of disposal methods during site visits continuously? Please add suitable monitoring frequency

**Project Participant Response:**

**Date:** 11/04/2011

1. *The PO is responsible for releasing the flow from river bed but the gauging stations are owned and operated by DSI.*
2. *There exist gauging stations at the upstream as defined in FSR. However, since there was not plant in the baseline scenario, a gauging station was not needed. After implementation of project, a gauging station may be requested by DSI to be installed at the downstream also.*
3. *The flow is released from the fish passage. The design of passage has been made to enable flow of minimum water. The water intake is made from the top of the weir crest, hence as long as there is water in the river, it flows freely from the fish passage. Also, in addition to this, project owner is releasing water from crest. A gauging station will also be installed by project owner. The location of gauge has been recently determined by DSI. The tender process for procurement has started (Source Project manager of Aralık HEPP, 03/03/2011). Calculations and flow records will be submitted during verification.*
4. *The statement has been updated and it has been stated that disposal records will be provided during verification.*

**Documentation Provided by Project Participant:**

*GSv2.1 Passport Template aralik track change*

**Information Verified by Lead Assessor:**

*GSv2.1 Passport Template aralik track change*

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 29/04/2011

The above argumentation of the PP is reasonable. The PO will install a gauging station and the calculations and flow records will be submitted during the verification. This approach is accepted.

The monitoring frequency continuously for checking of the disposal records is understood in the way that each disposal record will be checked after delivery. This approach is accepted.

CL22 was closed out.

**Acceptance and Close out by Lead Assessor:**

**Date:** 29/04/2011

Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	23
		Reference:	GS review 6.4; J.1.
<b>Lead Assessor Comment:</b>			

<p>GS comment: Soil condition. Please include excavation aggregates in the Sustainability Monitoring Plan since if those residues are not given in a controlled way to end users as stated, they could generate other impacts.</p> <p>LA: Please refer to official documentation as far as it is possible. Please clarify what kind of permissions of the authorities for disposal of excavation waste was issued. Please provide these permissions or similar documentation to show that the disposal was done according national regulations.</p>					
<b>Project Participant Response:</b>			<b>Date:</b> 11/04/2011		
<p><i>A monitoring item has been added as requested.</i></p> <p><i>Permissions and documents for disposal will be provided during verification.</i></p>					
<b>Documentation Provided by Project Participant:</b>					
GSv2.1_Passport_Template_aralik_track change					
<b>Information Verified by Lead Assessor:</b>					
GSv2.1_Passport_Template_aralik_track change					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>			<b>Date:</b> 29/04/2011		
<p>The point that permissions and records of excavation disposal will be monitored after the end of construction was accepted. This will be checked in the first verification.</p> <p>CAR23 was closed out.</p>					
<b>Acceptance and Close out by Lead Assessor:</b>			<b>Date:</b> 29/04/2011		
<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann		
<b>Type:</b>	CAR	<b>Number:</b>	24	<b>Reference:</b>	GS review 6.5; J.1.
<b>Lead Assessor Comment:</b>					
<p>GS comments: Other pollutants: Please include used oils storage and waste disposal in the revised Sustainability Monitoring Plan.</p> <p>LA:</p> <p>Waste oil disposal is added. Waste disposal and used oil storage are not added. Please revise.</p>					
<b>Project Participant Response:</b>			<b>Date:</b> 11/04/2011		
<p><i>Storage of used oil and other wastes are also added.</i></p> <p><i>PP Response 09/05/2011</i></p> <p><i>It has already been indicated that records will be checked. By saying "observation" we meant site visits during verification to see if any waste oil is spilled around. The word has been removed for simplification. The used oil will be generated due to turbines. Since the plant is new, it may not be necessary to change oil at first verification, hence there may not be any waste or disposal record.</i></p> <p><i>PP Response 01/06/2011</i></p> <p><i>It has also been added that spillage will be checked.</i></p>					
<b>Documentation Provided by Project Participant:</b>					
GSv2.1_Passport_Template_aralik_track change					
<b>Information Verified by Lead Assessor:</b>					
GSv2.1_Passport_Template_aralik_track change					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>			<b>Date:</b> 29/04/2011		

The items waste disposal and used oil storage were added to monitoring plan no. 9. The monitoring of the oil storage according to the regulation will be done by observation. This is not sufficient. If possible please define how the used oil will be stored and for the way of monitoring you should refer to a site visit, as for the other monitoring tables. You should make clear that these site visits will be documented and should define "site visit reports" (relevant also for tables 3 and 8). A monitoring without a proper documentation will not be accepted. CAR24 remains open.

LA 25/05/2011

Since the GS comment refers precisely to the storage of used oil I strongly recommend to take that serious. The storage of used oil is critical because a spillage can contaminate the soil and the ground water. For this reason special containers or catchment devices are used. These have to be regularly checked. So the observations and the site visit reports with checks for spillage are the right way. Please advice. CAR24 remains open.

LA 10/06/2011

The checking for spillage has been added to the monitoring report. The yearly time interval for these checks is not acceptable. Please revise. CAR24 remains open.

LA 08/07/2011

The PP added in GS passport ver.08 a detailed description about the handling of new and used oil at the facility. According to this description new oil will be used immediately and used oil will be only stored temporarily. The change of the oil will be done in an interval of more than a year. This description is reasonable. CAR24 was closed out.

**Acceptance and Close out by Lead Assessor:** **Date:** 08/07/2011

Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	25
		Reference:	GS review 6.6; J.1.

**Lead Assessor Comment:**

GS comment: Biodiversity. Please clarify how you will monitor the adequacy of the mitigation measure in maintaining the current level of biodiversity.

LA:

Please name the regulation which defines the minimum flow of 10 % and provide a working link or document. Please add a monitoring plan for the third party study for the minimal flow and the functionality of the fish passage.

**Project Participant Response:** **Date:** 11/04/2011

*The link for regulation has been added. The third party study will be made after project is registered by GS and content will be decided considering GS comments.*

*PP Response 09/05/2011*

*Link has been updated. Monitoring plan will be decided after registration of the project and discussed with GS.*

**Documentation Provided by Project Participant:**

*GSv2.1 Passport Template aralik track change*

**Information Verified by Lead Assessor:**

*GSv2.1 Passport Template aralik track change*

**Reasoning for not Acceptance or Acceptance and Close Out:** **Date:** 29/04/2011

The link for regulation about minimum flow (GS passport, ref. 5, page 18) is not working.  
 No monitoring plan for the third party expert study for the functionality of the fish passage and (as for similar projects) the effects on biodiversity is added. Please revise.  
 CAR25 remains open.  
 LA 25/05/2005:  
 Additions about the independent expert study are added to monitoring plan no. 4. The addition is accepted.  
 CAR25 was closed out.

**Acceptance and Close out by Lead Assessor:** **Date:** 25/05/2005

Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	26
		Reference:	GS review 6.7; J.1.

**Lead Assessor Comment:**

GS comment: Quality of employment. Please include this indicator in the Sustainability Monitoring Plan and include certificates of trainings kept onsite as evidence.

LA:

Please refer to monitoring plan no. 7.

GS passport v02 page 34: Monitoring table 7. Please define regular update trainings.

**Project Participant Response:** **Date:** 11/04/2011

*The updates cannot be defined at this stage early of implementation. It has already been stated that refreshment trainings will be made.*

**Documentation Provided by Project Participant:**

*GSv2.1\_Passport\_Template\_aralik\_track change*

**Information Verified by Lead Assessor:**

*GSv2.1\_Passport\_Template\_aralik\_track change*

**Reasoning for not Acceptance or Acceptance and Close Out:** **Date:** 29/04/2011

The argumentation that the regular updates can not be defined at this point of the project implementation was accepted. Qualification refreshments will be made if the PO thinks this is necessary.

FAR31 was added to check the planning of qualification updates during the next verification.

CAR26 was closed out.

**Acceptance and Close out by Lead Assessor:** **Date:** 29/04/2011

Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	27
		Reference:	J.1.

**Lead Assessor Comment:**

GS passport v02 page 34: Monitoring table 6. The reference for the gas price shows only figures of 2011. But your figures are taken from 2007. Please use adequate price figures.

**Project Participant Response:** **Date:** 11/04/2011

*The link is updated by supplier. When the documents were submitted, most up to date data has been used. It should have been checked by DOE at that time. If NG price changes, than the foreign currency saved changes also.*

*PP Response 09/05/2011*

*The link has been updated. You can find the historic prices for NG from the updated link.*

**Documentation Provided by Project Participant:**

*None*

**Information Verified by Lead Assessor:**

<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	<b>Date:</b> 29/04/2011
<p>GS requirements specify that the validation should be done on the basis of the updated documents of the prefeasibility assessment by GS. The in depth analysis of the documentation started after the prefeasibility assessment by GS and resulted in the first findings list. Earlier provided documents were checked in this time frame. Please provide evidence for the used NG price figures or provide another data source.  <i>CAR27 remains open.</i></p> <p><i>LA 25/05/2011:</i>  <i>The link is working. Historical NG prices were available. The statement of the PP in the monitoring table can be confirmed.</i>  <i>CAR27 was closed out.</i></p>	
<b>Acceptance and Close out by Lead Assessor:</b>	<b>Date:</b> 25/05/2011

<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann		
<b>Type:</b>	FAR	<b>Number:</b>	28	<b>Reference:</b>	GS F.1.3
<b>Lead Assessor Comment:</b>					
<p>For mitigation, measures are envisaged:</p> <p>Paying compensation or planting new trees as equalization for damage during plant construction.</p> <p>Building fences to prevent people from getting hurt by falling into the channel or the weir.</p> <p>Execution of mitigation measures to be checked during first site visit.</p>					
<b>Project Participant Response:</b>			<b>Date:</b> DD/MM/YYYY		
Ok.					
<b>Documentation Provided by Project Participant:</b>					
<b>Information Verified by Lead Assessor:</b>					
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>			<b>Date:</b> DD/MM/YYYY		
<b>Acceptance and Close out by Lead Assessor:</b>			<b>Date:</b> DD/MM/YYYY		

<b>Date:</b>	21/02/2011	<b>Raised by:</b>	Ralph Westermann		
<b>Type:</b>	CAR	<b>Number:</b>	29	<b>Reference:</b>	GS review 7.5
<b>Lead Assessor Comment:</b>					
<p>GS comment: Please explain why the transmission line (and its impacts on land property, land quality and biodiversity) is not considered in the SD assessment. If this information is available in the pre-EIA, please kindly upload the English summary so that the reviewers can more easily assess the impacts.</p> <p><b>LA:</b>          If the transmission line will be built by TEIAS but for project purposes the PP has to add the relevant information about these issues for example expropriation. You should include a discussion about the effects of the construction of the transmission line. Anyway chapter EK-2 and the scheme in the system connection agreement on page 15 indicate that KAR-EN is involved in construction and operation of this 5 km transmission line. Please explain.</p>					
<b>Project Participant Response:</b>			<b>Date:</b> 11/04/2011		

*The issue has been explained above. The transmission lines are within the responsibility of TEIAS which is a government agency. In order to prevent delay of projects due to lack of transmission line, TEIAS allows building the transmission lines by project owner. Article 4.A.2 explains these mechanism. When full pages of the agreement is read, it is seen that the parties will come together to discuss operation of the line after line is constructed. Since there exists other projects in the region, they'll also have to use the same line which is also given in the agreement.*

*There exist no private land in the transmission line area. Expropriation list is provided to DOE.*

*PP Response 01/06/2011  
 Explanation added under A.4.2 about transmission line.*

**Documentation Provided by Project Participant:**

*Expropriation list is given.*

*PP Response 09/05/2011  
 Added*

**Information Verified by Lead Assessor:**

*(Explain how the information was verified)*

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 29/04/2011

The argumentation is generally accepted. Please specify this point in the description of technical characteristics of Aralik HEPP in A.4.2 in PDD.  
 CAR29 remains open.

LA 25/05/2011:

The comment about the addition to A.4.2. relates of course to the relevance of the transmission line. Because the listing of the transmission line in the technical characteristics is the reason for the GS comment in the first place. Please revise.  
 CAR29 remains open.

LA 10/06/2011:

The PP added the explanation about the transmission line in section A.4.2. of the updated PDD. The point was closed.  
 CAR29 was closed out.

**Acceptance and Close out by Lead Assessor:**

**Date:** 10/06/2011

Date:	21/02/2011	Raised by:	Ralph Westermann
Type:	CAR	Number:	30
		Reference:	GS review 7.6
<b>Lead Assessor Comment:</b>			

GS comment: The GS notes that at the time of preparation of the PDD, Passport and Preliminary Stakeholder Consultation Report, GS version 2.1 manuals and templates were not available. However, since the date of document upload (18/08/2009) occurred after version 2.1 officially came online (01/08/2009), all project documentation should be reflecting GSv2.1 rules and guidelines. Therefore, please ensure that the GS Passport and LSC Report are upgraded to reflect the proper templates, especially before undertaking the retroactive GS validation.

LA: The upload is the relevant date for the retroactive project cycle, not the submission to the DOE. Please use GS ver.2.1 templates.

*“All projects applying under the regular project cycle and which have not submitted the complete Local Stakeholder Consultation report (Gold Standard Toolkit sections 2.6 & 2.9) and all projects applying under the retroactive project cycle and which have not submitted the complete documentation required for a pre-feasibility assessment (Gold Standard Toolkit, Table 2.9) and paid the pre-feasibility assessment fee by August 1 2009 will be required to employ the entirety of Version 2.1.”*

GS passport v02 page 39: Not the current ODA template. Please add a GS v2.1 template.

**Project Participant Response:**

**Date:** 11/04/2011

GS Passport template has been upgraded.

PP Response 01/06/2011

Project cycle has been changed to retroactive cycle. Therefore, LSC is not required anymore and it only serves as a supplementary meeting report. Therefore it has not been updated. Clarification from GS expert has been submitted to DOE.

Construction date added.

**Documentation Provided by Project Participant:**

GSv2.1\_Passport\_Template\_aralik\_clean copy

GSv2.1\_Passport\_Template\_aralik\_track change

**Information Verified by Lead Assessor:**

GSv2.1\_Passport\_Template\_aralik\_clean copy

GSv2.1\_Passport\_Template\_aralik\_track change

**Reasoning for not Acceptance or Acceptance and Close Out:**

**Date:** 29/04/2011

Current template version for GS passport and ODA template is used.  
 No updated version for the LSC report as requested by GS was provided.  
 Please add the construction date in section B of the GS passport.  
 CAR30 remains open

LA 25/05/2011:

That is correct and I am a little puzzled myself about this comment but the point is addressed in the pre-feasibility assessment of GS and therefore the fact that the project is retroactive was already known. Please clarify this point with GS or used the current template.

CAR30 remains open

LA 10/06/2011:

Statement from GS that LSC report not relevant for the project and don't have to be updated was received by mail. The point is closed.

CAR30 was closed out.

**Acceptance and Close out by Lead Assessor:**

**Date:** 10/06/2011

Date:	29/04/2011	Raised by:	Ralph Westermann
Type:	FAR	Number:	31
		Reference:	GS review 6.7
<b>Lead Assessor Comment:</b>			

It has to be checked if suitable assessment of the PO is available for the necessity of regular qualification refreshments, what is the content and the duration of these refreshments and if regular intervals are defined.	
<b>Project Participant Response:</b>	<b>Date:</b> <i>DD/MM/YYYY</i>
<i>Ok.</i>	
<b>Documentation Provided by Project Participant:</b>	
<b>Information Verified by Lead Assessor:</b>	
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>	
<b>Date:</b> <i>DD/MM/YYYY</i>	
<b>Acceptance and Close out by Lead Assessor:</b>	
<b>Date:</b> <i>DD/MM/YYYY</i>	

Date:	26/07/2011	Raised by:	Ralph Westermann
Type:	FAR	Number:	32
Reference:	GS review 6.7		
<b>Lead Assessor Comment:</b>			
It has to be checked if a suitable independent expert study for the functionality of the fish passage and the effects of the project for biodiversity are present and if the results of this expert study are adopted to the monitoring plan if required.			
<b>Project Participant Response:</b>		<b>Date:</b> <i>DD/MM/YYYY</i>	
<b>Documentation Provided by Project Participant:</b>			
<b>Information Verified by Lead Assessor:</b>			
<b>Reasoning for not Acceptance or Acceptance and Close Out:</b>		<b>Date:</b> <i>DD/MM/YYYY</i>	
<b>Acceptance and Close out by Lead Assessor:</b>		<b>Date:</b> <i>DD/MM/YYYY</i>	

**Annex 3: Team Members Statements of Competency**

**Statement of Competence**

Name: **Ralph Westermann**

**Status**

- Lead Assessor	<b>X</b>	- Expert	
- Assessor	<b>X</b>	- Financial Expert	
- Local Assessor	<b>Germany</b>	- Technical Reviewer	

**Scopes of Expertise**

- 1. Energy Industries (renewable / non-renewable)** ■  
 Sub scope(s):
- 2. Energy Distribution** ■  
 Sub scope(s):
- 3. Energy Demand** ■  
 Sub scope(s):
- 4. Manufacturing** ■  
 Sub scope(s):
- 5. Chemical Industry** ■  
 Sub scope(s):
- 6. Construction** ■  
 Sub scope(s):
- 7. Transport** ■  
 Sub scope(s):
- 8. Mining/Mineral Production** ■  
 Sub scope(s):
- 9. Metal Production** ■  
 Sub scope(s):
- 10. Fugitive Emissions from Fuels (solid, oil and gas)** ■  
 Sub scope(s):
- 11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride** ■  
 Sub scope(s):
- 12. Solvent Use** ■  
 Sub scope(s):
- 13. Waste Handling and Disposal** ■  
 Sub scope(s):
- 14. Afforestation and Reforestation** ■  
 Sub scope(s):
- 15. Agriculture** ■  
 Sub scope(s):

Approved Member of Staff by: **Siddharth Yadav** Date: **22.06.2010**

## Statement of Competence

Name: Cetin, Aslihan,

### Status

- Lead Assessor		- Expert	
- Assessor		- Financial Expert	
- Local Assessor	Turkey	- Technical Reviewer	

### Scopes of Expertise

- 1. Energy Industries (renewable / non-renewable)** ■  
*Sub scope(s):*
- 2. Energy Distribution** ■  
*Sub scope(s):*
- 3. Energy Demand** ■  
*Sub scope(s):*
- 4. Manufacturing** ■  
*Sub scope(s):*
- 5. Chemical Industry** ■  
*Sub scope(s):*
- 6. Construction** ■  
*Sub scope(s):*
- 7. Transport** ■  
*Sub scope(s):*
- 8. Mining/Mineral Production** ■  
*Sub scope(s):*
- 9. Metal Production** ■  
*Sub scope(s):*
- 10. Fugitive Emissions from Fuels (solid, oil and gas)** ■  
*Sub scope(s):*
- 11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride** ■  
*Sub scope(s):*
- 12. Solvent Use** ■  
*Sub scope(s):*
- 13. Waste Handling and Disposal** ■  
*Sub scope(s):*
- 14. Afforestation and Reforestation** ■  
*Sub scope(s):*
- 15. Agriculture** ■  
*Sub scope(s):*

Approved Member of Staff by: Siddharth Yadav Date: 15 January 2010

## Statement of Competence

Name:

### Status

- Lead Assessor	<input type="checkbox"/>	- Expert	<input type="checkbox"/>
- Assessor	<input type="checkbox"/>	- Financial Expert	<input checked="" type="checkbox"/>
- Local Assessor	<input type="checkbox"/>	- Technical Reviewer	<input type="checkbox"/>

### Scopes of Expertise

- 1. Energy Industries (renewable / non-renewable)**
- Technical Area(s):
- 2. Energy Distribution**
- Technical Area(s):
- 3. Energy Demand**
- Technical Area(s):
- 4. Manufacturing**
- Technical Area(s):
- 5. Chemical Industry**
- Technical Area(s):
- 6. Construction**
- Technical Area(s):
- 7. Transport**
- Technical Area(s):
- 8. Mining/Mineral Production**
- Technical Area(s):
- 9. Metal Production**
- Technical Area(s):
- 10. Fugitive Emissions from Fuels (solid, oil and gas)**
- Technical Area(s):
- 11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride**
- Technical Area(s):
- 12. Solvent Use**
- Technical Area(s):
- 13. Waste Handling and Disposal**
- Technical Area(s):
- 14. Afforestation and Reforestation**
- Technical Area(s):
- 15. Agriculture**
- Technical Area(s):

Approved Member of Staff by:  Date:

## Statement of Competence

Name: Gross, Jochen.

### Status

- Lead Assessor	x	- Expert	
- Assessor	x	- Financial Expert	
- Local Assessor	German y	- Technical Reviewer	x

### Scopes of Expertise

- 1. Energy Industries (renewable / non-renewable)**
- Technical Area(s):
- 2. Energy Distribution**
- Technical Area(s):
- 3. Energy Demand**
- Technical Area(s):
- 4. Manufacturing**
- Technical Area(s):
- 5. Chemical Industry**
- Technical Area(s):
- 6. Construction**
- Technical Area(s):
- 7. Transport**
- Technical Area(s):
- 8. Mining/Mineral Production**
- Technical Area(s):
- 9. Metal Production**
- Technical Area(s):
- 10. Fugitive Emissions from Fuels (solid, oil and gas)**
- Technical Area(s):
- 11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride**
- Technical Area(s):
- 12. Solvent Use**
- Technical Area(s):
- 13. Waste Handling and Disposal**
- Technical Area(s):
- 14. Afforestation and Reforestation**
- Technical Area(s):
- 15. Agriculture**
- Technical Area(s):

Approved Member of Staff by: Siddharth Yadav Date: 23/11/2010

## Statement of Competence

Name: Sanjay Banerjee

### Status

- Lead Assessor	<input checked="" type="checkbox"/>	- Expert	<input checked="" type="checkbox"/>
- Assessor	<input checked="" type="checkbox"/>	- Financial Expert	<input type="checkbox"/>
- Local Assessor	India	- Technical Reviewer	<input type="checkbox"/>

### Scopes of Expertise

<b>1. Energy Industries (renewable / non-renewable)</b>	<input checked="" type="checkbox"/>
Technical Area(s): TA 1.2 Energy generation from renewable energy sources	
<b>2. Energy Distribution</b>	<input type="checkbox"/>
Technical Area(s):	
<b>3. Energy Demand</b>	<input type="checkbox"/>
Technical Area(s):	
<b>4. Manufacturing</b>	<input type="checkbox"/>
Technical Area(s):	
<b>5. Chemical Industry</b>	<input type="checkbox"/>
Technical Area(s):	
<b>6. Construction</b>	<input type="checkbox"/>
Technical Area(s):	
<b>7. Transport</b>	<input type="checkbox"/>
Technical Area(s):	
<b>8. Mining/Mineral Production</b>	<input type="checkbox"/>
Technical Area(s):	
<b>9. Metal Production</b>	<input type="checkbox"/>
Technical Area(s):	
<b>10. Fugitive Emissions from Fuels (solid, oil and gas)</b>	<input type="checkbox"/>
Technical Area(s):	
<b>11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride</b>	<input type="checkbox"/>
Technical Area(s):	
<b>12. Solvent Use</b>	<input type="checkbox"/>
Technical Area(s):	
<b>13. Waste Handling and Disposal</b>	<input type="checkbox"/>
Technical Area(s):	
<b>14. Afforestation and Reforestation</b>	<input type="checkbox"/>
Technical Area(s):	
<b>15. Agriculture</b>	<input type="checkbox"/>
Technical Area(s):	

Approved Member of Staff by: Siddharth Yadav Date: 05/01/2011

**Annex 4: Gold Standard Validation Checklist**

**Note:**

The following questions reflect the specific GSv2.1 requirements for Large Scale GS projects as per GS v2.1 Toolkit, Annexes and Requirements described. The current version of the Gold Standard requirement can be found at <http://www.cdmgoldstandard.org/Current-GS-Rules.102.0.html>

This checklist is applicable either as GS stand alone validation (the present checklist applies), or in combination with other relevant GHG validation checklists (CDMVCS for e.g. etc), in which case, follow the fixed standard checklist template applicable for CDM projects (or other GHG scheme used in combination with GS) along with the additional GS requirements as listed in the following checklist. If the GS validation checklist duplicates requirements already covered in the other CDM (for eg) checklist, please refer to the other checklist (indicating in which section the answer is) and provide said completed checklist in the assessment pack too.

SGS shall receive the following documents from the project participants at the time of start of validation. The client shall specifically advise if they wish for SGS to upload these documents to the Gold Standard Registry (as default it is assumed the PP will do it themselves)

1. A complete PDD
2. A complete Passport
3. All supportive documentation (e.g. pre-feasibility assessment feedback, financial overview, compliance statement with environmental law, environmental impact assessment, cover letter etc.)

Rev.	Issue Date	Written/Modified by	Approved by (if not prepared by LA, it must be approved by the LA)
0	DD-MM-YYY	Insert Name	Insert Name and date of approval
1	DD-MM-YYY	Insert Name	Insert Name and date of approval
2	DD-MM-YYY	Insert Name	Insert Name and date of approval

## A. Project description

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
<p>A.1. Has the latest version of the PDD template been used (and completed correctly)?</p>	<p>GS v2.1VIII.c.1. Section B of the passport, toolkit 1.6</p>	<p>DR</p>	<p>Some formal mistakes in the PDD were combined in <b>CAR01</b>.</p> <ol style="list-style-type: none"> <li>1. PDD v02 page 7: Missing page number for reference 8</li> <li>2. PDD v02 page 8: Value for emission reduction 29,480 tCO<sub>2</sub> is not correct.</li> <li>3. PDD v02 page 14: Link for reference 22 is not working.</li> <li>4. PDD v02 page 17: Table 5 is doubled. See page 15</li> <li>5. PDD v02 page 19: Links 32 and 34 not working.</li> <li>6. PDD v02 page 31: The company name (Artvin Coruh Elektrik Uretim Sanayi ve Ticaret A.S.) is standing in brackets. This differs from the company name given in section A.3.</li> </ol> <p>In PDD version 04 these failures were corrected and <b>CAR01</b> was closed.</p> <ol style="list-style-type: none"> <li>1. PDD page 7: Page number for ref. 13 is added and found correct. Point is closed.</li> <li>2. PDD page 8: Value for emission reduction corrected. Point is closed.</li> <li>3. PDD page 14: Link for reference 35 (22) corrected and working. Point is closed.</li> <li>4. PDD page 17: Table 5 is deleted. Point is closed.</li> <li>5. PDD page 19: Link 45 (former 32) is corrected. Link 34 is deleted. Link 46 is not correct. A reference to net electricity data is missing. The data are correct but the reference not. The data sheet in the updated CM calculation file was corrected. Link 42 for net electricity data is added. Also the reference in annex 3 is corrected. The point is closed.</li> </ol> <p>PDD v02 page 31: The explanation that the company name has changed after ownership of the project and the provided evidence of the PP /71/ were found valid and were accepted. The point is closed.</p> <p>The project correctly applies the PDD template for SCC (PDD_form02_v03, valid since 22/12/2006)</p>	<p>ok</p>

<p>A.2. Has the latest version of the GS passport template been used (and completed correctly)?</p>	<p>GS v2.1VIII.c.2.</p>	<p>DR</p>	<p>The first issuance of the project documentation in April 2009 GS version 2 was applicable and the v.2 document templates were used.</p> <p>In the prefeasibility report GS states that the actual upload of the documents were done 18/08/2009. The GS version 2.1 was valid from 01/08/2009 and therefore the version 2.1 templates should be used. This point was left open by the PP and <b>CAR 30</b> was raised. With the revised documentation from April 2011 the version 2.1 templates for the GS passport and the ODA template was used. Because the GS comments was referring to the LSC report template also <b>CAR30</b> was left open. The PP submitted a mail communication with GS that it is not necessary to update the LSC template also because for retroactive projects the LSC meeting was not required. <b>CAR30</b> was closed.</p>	<p>Ok</p>
<p>A.3. If using the GS VER Programme of Activities has all the correct documents been found accurate and complete?</p>	<p>GS v2.1VIII.c.3</p>	<p>DR</p>	<p>Not applicable</p>	<p>Ok</p>
<p>A.4. Does the used project title clearly enable the reader to identify the unique GS project activity?</p>	<p>VVM Para.56 Guidelines for completing a CDM-PDD (PDD) section A.1</p>	<p>DR</p>	<p>Yes, the project title is Aralik HEPP which identifies the project activity correctly.</p>	<p>Ok</p>

<p>A.5. Does the description of the proposed project activity as contained in the PDD sufficiently cover all relevant elements accurately?</p>	<p>VVM          Para.59          PDD section          A.2 see also          A.4, A.4.3          and B.3</p>	<p>DR</p>	<p>Due to an open GS comment from the pre-feasibility assessment and other open points (see below) in the technical description <b>CAR03</b> was raised.</p> <p>GS comment: The discrepancy of the installed capacity of 12.41 MW to the capacity of the turbines of 6.45 MW should be related to the differences between electrical and mechanical capacity. The PP stated that this is also shown on the generation license.</p> <p>LA:</p> <ol style="list-style-type: none"> <li>1. The generation license included in the preEIA show a total capacity of 16.02 MW. Please provide a complete and updated generation license for the project officially approved.</li> <li>2. PDD v02 page 2: Clarification where the total length of the convenience line is documented is missing.</li> <li>3. PDD v02 page 2: Calculation of natural gas savings and US Dollar savings is missing.</li> <li>4. PDD v02 page 2: Evidence for the employment of 200 people during the construction phase missing. This is also valid for the GS passport page 3.</li> </ol> <p>Comments of the PP</p> <ol style="list-style-type: none"> <li>1. The updated generation license was provided by the PP /68/. The document is accepted. The point is closed.</li> <li>2. PDD v03 page 2: The explanation for the length of the convenience line was accepted. The reference is correct. The point is closed.</li> <li>3. PDD v03 page 2: Calculation of natural gas savings and US Dollar savings is added. The references are reliable. The calculation is correct. The point is closed.</li> <li>4. PDD v03 page 2: The statement about the employment of 200 people during the construction phase was deleted. The point is closed.</li> </ol> <p><b>CAR03</b> was closed.</p>	<p>Ok</p>
<p>A.6. Is all information provided consistent and in compliance with the actual situation or planning?</p>	<p>VVM          Para.64          PDD section          A.2 see also          A.4, A.4.2          and B.3</p>	<p>DR</p>	<p>Yes, it can be confirmed by the approval of commissioning that the Aralik project Milestones given in table 1 of the PDD /01i/ are in line with the actual situation.</p>	<p>Ok</p>

<p>A.7. Does the proposed CDM project activity involve the alteration of existing installations or process?</p>	<p>VVM          Para.64          PDD          section A.4</p>	<p>DR</p>	<p>No. This was confirmed by the project documentation like feasibility report /47/, pre-EIA /46/ and the site visit.</p>	<p>Ok</p>
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## B. Project eligibility

<b>Checklist Question</b>	<b>Ref. ID</b>	<b>MoV*</b>	<b>Comments</b>	<b>Conclusion/ CARs/CLs</b>
<b>B.1. General eligibility requirements</b>				
B.1.1. Has the pre-announcement statement, regarding the project going ahead without carbon credits (where applicable) been validated against subsequent information?	GS v2.1 III.a. III.a.2. Passport section 3.2	DR	The pre-announcement statement in GS passport is filled out correctly. From the site visit and the review of the documents no contrary findings were found.	ok
<b>B.2. Eligible project activity location</b>				
B.2.1. Has the location of the project activity been verified? This will include the longitude and latitude of the project boundary.	III.b.1/2 Toolkit 3.5.1 b (eligibility) Passport section C.2 and D.1	DR	Turkey passed legislation in Parliament on 05/02/2009 to ratify the Kyoto Protocol but does not have a quantitative emission reduction limit yet is likely not to have it until post 2012. As such, Turkey in the interim period continues to be eligible for voluntary emission reduction projects The coordinates in the PDD were given for the weir with 41°23'53"N 41°44'06"E and for the powerhouse with 41°23'36"N 41°41'49"E. These coordinates have a good accordance to the coordinates measured during the site visit.	ok
B.2.2. Does the host country of the project provide GHG emission caps or provide tax or financial incentives to the project?	GS v2.1 III.b.3/4	DR	Turkey passed legislation in Parliament on 05/02/2009 to ratify the Kyoto Protocol but does not have a quantitative emission reduction limit yet is likely not to have it until post 2012.	ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
<b>B.3. Eligible project activity gases</b>				
B.3.1. What project emissions will be monitored/reduced through the implementation of the project activity?	GS v2.1 III.c. Toolkit 3.5.1 d (eligibility) Passport section C.4	DR	Only Carbon Dioxide (CO2)	Ok
<b>B.4. Eligible project types</b>				
B.4.1. Is the project type eligible under Gold Standard?	Toolkit Annex C, 3.5.1c (eligibility) Passport section C.3	DR	<p>Eligibility criteria:            Additionality – to be shown in following sections of this checklist            Previous announcement – declaration is valid. No objections            Host country – For VER projects any host country valid            Project activity gas – Carbon Dioxid            Project type – Renewable Energy Supply            Project scale – Small scale; beneath 15 MW            ODA support – Declaration that no ODA support is granted included in GS passport</p> <p>Criteria for hydro power projects – Discussion of the relevance and the implications of the checklist from Annex C table C.2. was added as annex 6 of PDD ver. 02 /1b/ and found in several points insufficient. <b>CAR13</b> was raised.</p> <ol style="list-style-type: none"> <li>1. Clear statements and evidences for several quantitative or qualitative statements in the table are missing (e.g. minimum flow sufficient, no lateral rivers, existence of flood plains, depth of fish passage, social impacts etc.)</li> <li>2. In section sediment management point 4 the reader gets the impression that sediments are accumulated below the weir until the next flood season.</li> <li>3. Protection of animals is also directed on aquatic animals (turbines, water intake')</li> </ol> <p>The PP revised his comments in PDD ver. 03 and 04.</p> <ol style="list-style-type: none"> <li>1. Management Domain, point 1: Reference for 10% minimum flow added /101/. Point is closed</li> </ol> <p>Management Domain, point 3: In the justification section of the passport two springs are mentioned with a reference to FSR/preEIA. The PP states that the creeks referred are connected after the weir so there is nothing related to connectivity of lateral rivers in that respect. Project weir is very small so it will not have any impact in that respect. A clarification has been added to table c.2. This explanation was accepted. The point was closed.</p> <p>Management Domain, point 8: The PP added a clear statement that no floodplains exists between dam and power house. This can be confirmed by the site visit and pictures from the site. The point is closed.</p>	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			<p>Social Impacts, point 5: The PP added a statement about the expropriation of a derelict house near the weir. This description is in line with the observation during the site visit and the provided expropriation decision /48/.</p> <p>The statement about depth of fish passage has been removed and it has been indicated that an expert assessment will be conducted to ensure functionality.</p> <p>2. The PP states that sediment accumulation is not preferred by project owner also. The statement had corrected and the specified passage was deleted. The point was closed.</p> <p>3. Power Plant Design, point 1: The PP added a statement about filters which will be installed before the turbines. This statement was accepted. The point was closed.</p> <p><b>CAR13</b> was closed out.</p> <p>The final version of the filled out checklist according annex c of the toolkit in annex 6 of the PDD ver. 08 was assessed as reasonable, backed up with reliable references and in line with the project design described in the documentation and as assessed during the site visit. All relevant environmental effects are addressed and proper mitigations measures installed.</p>	
B.4.2. Does the project activity qualify as a micro-scale project activity? If yes does each project activity meet the eligibility criteria?	GS v2.1 III.d.6/7		Not applicable	ok
B.4.3. Does the project activity qualify as a bundled project activity? If yes does each project activity meet the eligibility criteria?	GS v2.1 III.d.6.		Not applicable	ok
<b>B.5. Eligible project scale</b>				
B.5.1. What is the scale of the project activity? How was	GS v2.1 III.e.1/2 III.e.2.2.	DR	Aralik is a small scale project with a production capacity of 12.41 MW and therefore below the threshold of 15 MW which is defined as the upper level for small scale projects. This production capacity is also confirmed by the updated version of the generation licence dated 06/03/2008	ok

<b>Checklist Question</b>	<b>Ref. ID</b>	<b>MoV*</b>	<b>Comments</b>	<b>Conclusion/ CARs/CLs</b>
this validated?	Toolkit 3.5.1 a (eligibility) Passport section C.1		/68/.	
B.5.2. Is the small-scale project activity a debundled component of a large scale project activity	VVM Para. 136c EB54 para 35 & Annex 13	DR	No, after the check of the project documentation and the site visit no sign of debundling could be detected.	Ok
B.5.3. Is the category(ies) of the project activity correctly identified in accordance with Appendix B to the simplified modalities and procedures for small-scale CDM project activities?		DR	Yes, the category of the project is in the PDD section A.4.2 correctly defined as type I, renewable Energy projects with the category I.D, grid connected renewable energy projects with the sectoral scope 1, energy industry – renewable sources.	Ok
<b>B.6. Eligible methodologies for project activities</b>				
B.6.1. Has the methodology been checked (i.e. version, compliance with PDD, type and scale of project)?	GS v2.1 III.f.2. III.f.3.	DR	Methodology is AMS-I.D. Grid connected renewable electricity generation, ver. 14 (valid from 30/07/2009 onwards). This methodology is the correct according to the project type and with the correct version valid at the date of the upload of the documents to the GS registry on 18/08/2008.	ok
<b>B.7. Ineligible project activity finance</b>				
B.7.1. Does the project receive public or governmental funding/assistance?	GS v2.1 III.g.2. Toolkit 3.5.1 e (eligibility)	DR	ODA declaration is included in GS passport. After GS pre-feasibility report the version of the ODA template was not updated. CAR30 was raised. In the revised version of the GS passport the ODA template version 2.1 was used and CAR30 was closed.	ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
	Passport Annex 1			
<b>B.8. Multiple Submissions between GS CDM/JI and GS VER</b>				
B.8.1. Has the project been submitted in parallel with any other scheme? If yes what was the outcome?	GS v2.1 III.h.1.2.	DR	The project activity was only submitted for registration to the Gold Standard VER stream. The project activity is not registered under UNFCCC and was not rejected by the UNFCCC	ok
B.8.2. Has the project used facilities under EU ETS? If yes have the EUAs been retired?		DR	The project activity does not involve facilities under the EU ETS	ok
<b>B.9. Project timeframe</b>				
B.9.1. Has the timeframe of the project been validated?  Note: see also 'project cycle, registration and crediting period'	GS Toolkit 1.2.6 Passport section C.5	DR	<p>Several evidences for the milestones in table 1 Aralik Project Milestones in PDD ver 02 /01c/ were missing and <b>CAR04</b> was raised.</p> <ol style="list-style-type: none"> <li>1. PDD v02 page 3: For table 1. Aralik project milestones the date for the document loan agreement could not be found in this document.</li> <li>2. PDD v02 page 3: An evidence for the start of construction is missing..</li> <li>3. PDD v02 page 3: An evidence for the commissioning date is missing.</li> <li>4. PDD v02 page 3: In the PFA 10.03.2010 is the date of feedback whereas in table 1 23.06.2009 is mentioned.</li> <li>5. PDD v02 page 3: The evidence for the first consideration of carbon credits is missing.</li> </ol> <p>1. PDD page 3: The PP provided the complete document loan agreement /80/. The date 10/04/2008 could be confirmed. The point is closed.</p> <p>2. PDD page 3: The PP provided the construction permission /66/ as an evidence for the start of construction. This is generally accepted. But the provided document is difficult to read. The PP provided a better copy of the construction permission /81/. The date is now readable and 21/03/2008 could be confirmed. The point is closed.</p> <p>3. PDD page 3: The commissioning approval was provided as an evidence for the commissioning date. The evidence is accepted. The point is closed.</p>	ok

<b>Checklist Question</b>	<b>Ref. ID</b>	<b>MoV*</b>	<b>Comments</b>	<b>Conclusion/ CARs/CLs</b>
			<p>4. PDD page 3: Date has been corrected. The point is closed.</p> <p>5. PDD page 3: The date of the first consideration of carbon credits was added to the table. The evidence /53/ is accepted. The point is closed.</p> <p><b>CAR04</b> was closed.</p> <p>The time frame according to the table Aralik Project Milestones was assessed as correct and in line with the actual project proceedings and the requirements.</p> <p><b>Previous announcement check</b> – The pre-announcement statement in GS passport is filled out correctly. From the site visit and the review of the documents no contrary findings were found</p> <p><b>Retroactive registration</b> – The project construction already started at the date of the upload to the GS registry. The project activity is due for a retroactive registration. The pre-feasibility report of GS was issued and the project documentation was changed according to the GS comments.</p> <p><b>Retroactive crediting</b> - The crediting period is defined with 7 years in the project PDD. the standard UNFCCC crediting period. This means it can be one fixed period of 10 years, or one to three periods of 7 years.</p>	

## C. Baseline and monitoring methodology check

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
<b>C.1. General Requirements</b>				
C.1.1. Is the baseline methodology previously approved by the Methodology Panel? <b>When using the UNFCCC approved PDD</b>	VVM Para.68 PDD section B.1 Toolkit 2.2	DR	Methodology is AMS-I.D. Grid connected renewable electricity generation, ver. 14 (valid from 30/07/2009 onwards). According to GS rules the valid methodology at the date of the upload of the documents to the GS registry is valid for the validation.  In line with the methodology the baseline was defined as the kWh produced by renewable generation unit multiplied by an emission coefficient calculated according to the "Tool to calculate the emission factor for an electricity system"	ok
C.1.2. Is the baseline methodology previously approved by the <b>GS foundation</b> ?	Please refer to the Gold Standard Meth.	DR	Not applicable. The used methodology is an approved UNFCCC methodology.	ok
C.1.3. Has the methodology (incl. the tools) been altered from the original version as referenced in the PDD?	VVM Para.69 PDD section B (B.1-B.2) Or refer to the Gold standard meth	DR	Methodology is AMS-I.D. Grid connected renewable electricity generation, ver. 14 (valid from 30/07/2009 onwards). Tool for assessment and demonstration of Additionality, version 5.2 Tool to calculate the emission factor for an Electricity system ver 1.1. These are the valid documents at the time of the upload of the project documents to the GS registry.	Ok
C.1.4. Is the selected approved CDM or Gold Standard methodology applicable to the project activity in the PDD?	VVM Para.75/66a/68/73 PDD section B (B.1-B.2) GS III.f.5. Or refer to the Gold Standard Meth	DR	Selected methodology applicable, as <ul style="list-style-type: none"> <li>project is a grid connected renewable electricity generation project,</li> <li>project does not involve combined heat and power generation,</li> <li>installed power capacity of the project is below 15 MW</li> </ul>	Ok
C.1.5. Is the discussion in the PDD in conformance with all applicability criteria of the applied methodology?	VVM Para.75/66b/68 PDD section B (B.1-B.2)	DR	In version 02 of the PDD not all eligibility criteria of AMS I.D. ver 14 are addressed and <b>CAR06</b> was raised.  Statements to the missing applicability criteria 4 and 5 were added in PDD	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
	GS III.f.5.		<p>version 03 /01e/ and accepted. The applicability criteria about the reservoir for HEPPs is addressed first in AMS I.D v.15. Since version 14 is valid for this project the applicability criteria do not have to be discussed in detail. The comment on page 7 of the PPD version 04 was accepted as correct and sufficient.  <b>CAR06</b> was closed out.</p> <p>The discussion in the PDD version 08 list the following point.</p> <ul style="list-style-type: none"> <li>▪ <i>The Aralık HEPP is a grid connected renewable electricity generation project,</i> this is sufficiently demonstrated by project design, feasibility report and generation permission.</li> <li>▪ <i>The project does not involve combined heat and power generation activity,</i> this is sufficiently demonstrated by project design, feasibility report and generation permission.</li> <li>▪ <i>Installed power capacity of the project is below 15 MW and it does cause any new reservoir formation.</i> this is sufficiently demonstrated by project design, feasibility report and generation permission.</li> <li>▪ <i>Project activity does not involve addition of new unit</i> this is sufficiently demonstrated by project design, feasibility report and generation permission.</li> <li>▪ <i>Project activity does not seek for retrofit or modify an existing unit.</i> this is sufficiently demonstrated by project design, feasibility report and generation permission.</li> </ul>	
<b>C.2. Project Boundary</b>				
C.2.1. Are all emission sources and gases related to the baseline	VVM Para.79/76 /67a	DR	According the methodology all relevant sources and gases has been specified. The energy source for the project activity is water energy.	ok

<b>Checklist Question</b>	<b>Ref. ID</b>	<b>MoV*</b>	<b>Comments</b>	<b>Conclusion/ CARs/CLs</b>
scenario, project scenario and leakage clearly identified and described in a complete and transparent manner? Is there information on GHG emissions in proposed project activity boundary as a result of the implementation of the proposed 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?	PDD section B.3 Or refer to the Gold standard methodology.		Emissions from back-up power generation do not have to be included according to the methodology. Methane emissions from the reservoir do not have to be included also. Anyway the project activity is a run-of-river hydro power plant with no or a negligible small reservoir.  Leakage is not accounted for according to the methodology. There is no indication, that there are any further project emissions greater than 1% of the expected annual emissions reduction, that are not covered in the methodology.	
C.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with the tool to calculate emission factor of electricity system version 2 (wherever applicable) and the underlying methodology?	VVM Para.79 PDD section B.3 EB 50 Annex 14 Or refer to the Gold Standard Meth	DR	The grid is correctly identified a delineated according to the "Tool to calculate the emission factor for an electricity system", Version 01.1. The PDD calculates emissions from the power plants of the Turkish grid. This is in line with the methodology and the tool.	ok
C.2.3. Does the project boundary include the physical delineation of the proposed project activity?	VVM Para.78/79 PDD section B.3 also see section A.4.3 Or refer to the Gold standard methodology.	DR	The project boundary is defined correctly in section B.3. of the PDD as Aralik Weir, Penstock, Conveyance line and Powerhouse.	ok
C.2.4. Are the project's geographical boundaries and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	VVM Para.76/79 PDD section B.3 also see section A.4.3	DR	All sources and GHGs required by the methodology have been included within the project boundary	ok
C.2.5. Has the PP provided a schematically correct diagram of the layout of the project?		DR	The diagram is added as figure 2 on page 6 of the PDD	ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
<b>C.3. Baseline Scenario</b>				
C.3.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is the application of the methodology and the discussion and determination of the chosen baseline transparent?	VVM Para.67b.80/82/86 PDD Section B.4/B.5 Or refer to the Gold Standard Meth	DR	If the project activity is not a modification or retrofit of an existing renewable energy plant but an installation of a new HEPP the only possible baseline scenario is defined as “For all other systems, the baseline emissions are the product of electrical energy baseline $EG_{BL,y}$ expressed in kWh of electricity produced by the renewable generating unit multiplied by an emission factor” This is correctly pointed out in the PDD.	ok
C.3.2. Are all tools/procedures in the methodology correctly applied to identify the most reasonable baseline scenario? This includes all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	VVM Para.81/82/86a-d/83/84 PDD Section B.4/B.5 Or refer to the Gold Standard Meth	DR	As pointed out in C.3.1. the baseline is defined by the methodology.	ok
C.3.3. Is the choice of the baseline compatible with the available data?	VVM Para.86b-c/95 PDD Section B.4/B.5 Or refer to the Gold Standard Meth	DR	As pointed out in C.3.1. the baseline is defined by the methodology.	ok
C.3.4. Is conservativeness addressed in the way of identifying the baseline?	VVM Para.90 PDD Section B.4/B.5 Or refer to the Gold Standard Meth	DR	As pointed out in C.3.1. the baseline is defined by the methodology.	ok
C.3.5. Does the selected baseline represent the most likely scenario among other possible and/or	VVM Para.90/91 PDD Section B.4/B.5	DR	As pointed out in C.3.1. the baseline is defined by the methodology.	ok

<b>Checklist Question</b>	<b>Ref. ID</b>	<b>MoV*</b>	<b>Comments</b>	<b>Conclusion/ CARs/CLs</b>
discussed scenarios?	Or refer to the Gold Standard Meth			
C.3.6. Is there a verifiable description of the baseline scenario? Does this include a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed project activity?	VVM Para.86e/85 PDD Section B.4/B.5 Toolkit 3.5.1 Or refer to the Gold Standard Meth	DR	The baseline scenario is clearly described.	Ok
C.3.7. Are there any future or legally binding regulatory requirements that may affect implementation that have not been discussed?	Toolkit 3.5.1	DR	No legal regulations is planned to affect the implementation of the project activity in a negative way. On the contrary the draft for the "Nature and Biodiversity Conservation Law" shows that it would become easier in Turkey to realize HEPPs and dam projects also in environmental critical areas.	ok
C.3.8. Is there any indication of a date when determining the baseline? Is this consistent with the time line of the PDD history?	PDD Section B.8/Annex 3	DR	Yes, the date of completion of the baseline is defined as 15/06/2010. This is reasonable because the baseline calculation was revised after the GS comments in the pre-feasibility assessment.	Ok

## D. Project Cycle, Registration and Crediting period

<i>Checklist Question</i>	<i>Ref. ID</i>	<i>MoV*</i>	<i>Comments</i>	<i>Conclusion/ CARs/CLs</i>
<b>D.1. Crediting Period</b>				
D.1.1. Is the crediting period reasonable and adhere to the life time of the project?		DR	The crediting period in section A.4.3 of the PDD was set from 01/05/2010 to 30/04/2017 which gives in total 7 crediting years. The start of the crediting period was evaluated as reasonable because the approval of commissioning /67/ dated from 30/04/2010	ok
D.1.2. Has the start date been validated? Does it adhere to all other available information?	GS v2.1 V.a.2/3	DR	Project start has been defined in section C.1.1 of the PDD as 27/07/2007. This was backed up by the equipment purchase agreement /15/	Ok
D.1.3. If the project is registered under more than one voluntary/certification scheme does the total crediting period exceed that of GS crediting period?	GS v2.1 V.a.4. Toolkit 3.5.1 g (eligibility)	DR	The internet search did not produce any hints of a registration under another certification scheme.	Ok
D.1.4. Is the project claiming pre-CDM VERs?	GS v2.1 V.a.5.1	DR	Not applicable.	Ok

## E. Additionality

<i>Checklist Question</i>	<i>Ref. ID</i>	<i>MoV*</i>	<i>Comments</i>	<i>Conclusion/ CARs/CLs</i>
<b>E.1. Additionality Requirement - Gold Standard CDM and JI project activities</b>				
E.1.1. Has an appropriate tool been used by the PP? Is this the most current version?	GS v2.1 VI.a/b Toolkit 3.5.1 a (additionality check)	DR	The additionality was demonstrated according to the "Tool for the assessment and Demonstration of Additionality" version 05.2.. This is the most current version at the time of the upload of project documents to the GS registry.	Ok
<b>E.2. Additionality Requirement - Gold Standard VER project activities</b>				
E.2.1. Has an appropriate tool been used by the PP? Is this the most current version?	GS v2.1 VI.c.1.	DR	The methodology is AMS-I.D. Grid connected renewable electricity generation, ver. 14 (valid from 30/07/2009 onwards) was used. That was the most current version at the date of the upload of the documents to the GS registry.	Ok
<b>E.3. Assessment of Additionality</b>				
E.3.1. Does the PDD clearly demonstrate the additionality using the approach as specified in the methodology and by following all the required steps?	VVM Para.67d/95 PDD Section B.1/B.4/B.5 Toolkit section 3.5.1 b (additionality check) Passport section H.1 Or refer to the Gold	DR	The additionality was clearly demonstrated as specified in the methodology is AMS-I.D. Grid connected renewable electricity generation, ver. 14, the "General Guidelines to SSC CDM methodologies" ver. 12 and decision 4/CMP.1, annex II, appendix B, attachment A.  For the demonstration of the additionality the investment analysis was chosen. The approach in the PDD follows the requirement of the tool and the "Guidance on the assessment of investment analysis" version 3. The additionality was clearly demonstrated.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
E.3.2. For small scale project activities is the additionality assessed in accordance with specific requirements for such projects?	Standard Meth VVM Para. 135 Passport section H.1	DR	<p>The PP applies a benchmark investment analysis, taking into account the additionality tool</p> <p>Outdated: The PDD follows the requirements for demonstration of additionality in decision 4/CMP.1, annex II, appendix B, attachment A. /05/. The attachment refers to point (d) other barriers.</p> <p>EB35; annex 34, refers to the demonstration of investment barriers with e.g. the benchmark analysis. This approach is chosen by the PP. The PP followed the “Guidance on the assessment of investment analysis” version 3.</p> <p>In the “Guidelines for objective demonstration and assessment of barriers” version 01 under guideline 5 for demonstration of investment barriers it is stated that the PP should demonstrate that the financing of the project was assured only due to the benefit of the VER income. This was demonstrated by the reliable investment calculation as a benchmark analysis which shows that the project is not financial attractive for investors without VER income.</p> <p>In section H.1 the PP refer to the demonstration of the additionality which is outlined in the PDD section B.5.. The PP follows approved CDM tools and methodologies and additional Gold Standard requirements are not applicable.</p>	Ok
E.3.3. In case of using the additionality tool: Is the ‘Additionality Tool’ used in the PDD latest version? If an earlier version has been used, do the changes impact the discussion in the PDD? Are all steps followed in a transparent manner?	PDD Section B.1/B.4/B.5 GS Toolkit 2.3 Passport section H.1	DR	<p>The additionality was demonstrated according the “Guidance on the assessment of investment analysis” version 3 from the “Tool for the assessment and Demonstration of Additionality” version 05.2.</p> <p>This approach is acceptable and in line with the regulations for small-scale project activities, as shown in E.3.2.</p> <p>The points for the investment analysis were discussed in E. 3.6</p>	Ok
E.3.4. Has all information been	VVM Para.93/91		List of input parameters:	ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
backed up with references, sources and certification? Is the data presented credible and reliable with complete transparency to all available data and documentation?	PDD Section B Toolkit section 3.5.1 b (additionality check) Passport section H.1		<p>Government bond rates – Document istihl.xls from <a href="http://www.tcmb.gov.tr">http://www.tcmb.gov.tr</a>  Country risk premium – ctryprem06.xls from <a href="http://www.stern.nyu.edu">http://www.stern.nyu.edu</a>  Installed capacity – Official generation licence  Grid connected output – Official generation licence  Capital investment – Feasibility report  Corporate tax rate – reference from a website of the union of financial councillors and accountants  Loan – loan agreement  Operating costs - Tariffs and Invoices for Grid Fee, Staff cost from similar plants of project owner  Expected tariff – renewable energy law  Expected VER price – State of Voluntary Carbon Market 2009 and 2007  Maintenance costs – Estimation of 0.5% of investment costs from <a href="http://hydropower.inel.gov/hydrofacts/plant_costs.shtml">http://hydropower.inel.gov/hydrofacts/plant_costs.shtml</a>  Grid fee – Correct calculation based on distribution system charge, residual balance adjustment and transmission system charge.  Staff + Contingency – Value is in line with other Turkish projects from this time frame  Grid loss factor – Based on TEIAS data from 2006  Residual Balance Adjustment coefficient – Based on 2007 values from <a href="http://www.pmum.teias.gov.tr">www.pmum.teias.gov.tr</a>  Distribution System Charge – Based on TEDAS data from 2007 /103/  Transmission System Charge – Based on EPDK regulation no. 1029 /104/</p>	
E.3.5. Is the discussion on additionality and the evidence provided consistent with the starting date of the project? If the project activity start date is prior to the validation is it discussed how prior consideration was taken into account in the decision to go	VVM Para.102b PDD Section B.5 Passport section H.1	DR	<p>The starting date of the project is the same as the date of the equipment purchase agreement which is the 27/07/2007. The PP provided a Board Decision for Consideration of Carbon Revenue from 20/10/2006. The decision is dated 5 months after the issuance of the generation licence and shortly before the finalization of the feasibility report.</p> <p>The PP provided a board decision with front page. The officially approved front page shows a date from 1993. For clarification <b>CL05</b> was raised.  The explanation of the PP was that the <i>first page referred above is the date of establishment of company whereas the second page contains decision about consideration of carbon revenue.</i>  The explanation of the PP was accepted as reasonable and in compliance with the documents. <b>CL05</b> was closed out.</p> <p>The document was accepted as company internal evidence for the consideration of carbon revenue and prior consideration of this issue before the final decision to go ahead with the project was demonstrated.</p>	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
ahead with the project activity				
E.3.6. If an investment analysis has been used, has it been demonstrated that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs/VERs/EUAs etc?	VVM Para. 106, 107, 108 109 112a-c PDD Section B.5 Passport section H.1	DR	<p>The PP decided to demonstrate the additionality with an investment analysis.</p> <p>The PP has chosen the benchmark analysis and as the suitable financial indicator the equity IRR. The selection was appropriate because the project will benefit also from the sale of the produced electricity and the PP has no alternative project at hand to compare the investment costs.</p> <p>The date of the investment decision was given as the 21/07/2007 which is the date of Equipment purchase agreement /15/. This was accepted because the signing of the agreement do serve as the date when the final decision to invest in this project was fixed.</p> <p>Investment analysis is not in accordance with “Guidance on the Assessment of Investment Analysis”: <b>CAR07</b> was raised.</p> <p>a. An explanation is missing why the residual value after 46 years is zero from the perspective of the project proponent. The PP explained that the license is issued for 49 years from date of issuance (15/06/2006) therefore operational lifetime becomes 45 years after commissioning (30/04/2010). When the license period is completed, the plant is delivered to government at no cost. Therefore, value for project owner is “0” A statement is available in section c.1.2 for lifetime of the plant. This statement was accepted as reasonable and in line with the Turkish regulations. The Point was closed.</p> <p>b. The benchmark was calculated by a sample of turkish government bonds in the time frame 17.04.2007 until 04.09.2007. The date of the investment decision was identified as the date of the purchase agreement for the turbines 27.07.2007. Five values of the samples are dated after the date of the investment decision. The PP excluded 5 bond rates issued after investment decision date. The new sample collection was accepted. The point was closed.</p> <p>c. The PP should add the Euro Bond rates of the time before the investment decision as a backup for the Turkish government bond rate. The PP stated that €bond have not been added as GS also makes similar comments when €bond is used. Instead, a reference has been given to WB study referred by GS and a discussion has been added to demonstrate that even if we consider WB study (15%) as reference, project equity IRR is</p>	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			<p>below the benchmark as agreed with GS.            The references of the PP to the world bank documents with benchmarks of 15 % and 16% to 20 % were accepted. This benchmark was not partly not available at the time of the investment decision but the discussion of the PP that even with the lowest defined benchmark of 15% the project will not be financial attractive was accepted. The point was closed</p> <p>d. The PP should provide evidence for estimation of staff cost and grid fee. Please also include information on the calculation of VAT.            The PP provided for staff cost, payroll from another project of project owner which shows monthly payment as 30,634TL. For Grid fee, the document “operating cost” includes two invoices for zero residual item correction factor and reference for distribution fee VAT is not paid for import items. Since there is no local manufacturer for turbines, it has been assumed that no VAT will be paid for EM equipment.            Staff + Contingency – Value is in line with other Turkish projects from this time frame            Grid loss factor – Based on TEIAS data from 2006            Residual Balance Adjustment coefficient – Based on 2007 values from www.pmum.teias.gov.tr            Distribution System Charge – Based on TEDAS data from 2007 /103/            Transmission System Charge - Based on EPDK data /104/.            The references were accepted. The point was closed out.</p> <p>e. The date of the investment decision is one year later than the issuing date of the feasibility report. The PP should provide evidence that the cost figures from the feasibility report are still valid at the time of the investment decision.            The PP stated that the FSR is dated november 2006 where as signature date is July 2007 hence much less than one year. It is not actual to update figures in such a short time. FSR investment figures includes contingency which is fort his type of issues. Plus, realized costs have been submitted which shows that FSR figures are conservative.            It can be confirmed that the investment decision was taken 7 to 9 months after the finalization of the FSR. This time is short enough to accept that the financial figures from the feasibility report were still valid at the time of the investment decision. The comparison of the cost figures for the equipment with the realized costs according the equipment purchase agreement showed that these figures were conservative and reliable. The point was closed.</p> <p>f. The PP should provide evidence for the historical trends of tariffs for electricity on open markets in the time frame from the investment decision until two years later.            The PP provided a reference with the trends for the marcet prices from January 2007 to October</p>	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			<p>2010. It was shown that the electricity tariff in the time before the investment decision varies in a range between 100 and 140 TL/MWh which is related to sales price of somewhere between 5,5 €ct and 7,7 €ct. Based on the fact that hydro power plant is a must run power plant and can not synchronize the electricity production with the market conditions the assumption to rely on the guaranteed price of 5,5 €ct is acceptable and the variation range of 35 % for the electricity income in the sensitivity analysis reflects the actual situation of the Turkish electricity market at the time of the investment decision. The point was closed.</p> <p>g. PDD v02 page 9: Sample of bond rates includes values that are younger than 27.07.2007 (date of investment decision). The PP corrected the sample of band rates and all data were issued before the date of the investment decision. The point was closed.</p> <p>h. PDD v02 page 9: Please add references for table 3. References /67/47/68/97/75/73/74/98/ are added to table 3. References were checked and found valid. The point was closed.</p> <p>i. PDD v02 page 10: Please provide evidence for expected VER price. The PP provided a reference from 2009 /98/ based on the data of 2008. Also other sources from 2008 or 2007 showed a wide variety of prices so that the assumed price in the PDD is acceptable regarding the fact that it is of less importance for the demonstration of the additionality. The point was closed.</p> <p>j. PDD v02 page 10: Link 13 shows only main page. Selection of parameter for 2010 is not running. The PP provided a print-out copy of the data selection. With reference /77/ the cost data from January 2007 to July 2007 and later were provided. The data were accepted. The point was closed.</p> <p>k. PDD v02 page 11: Value for +35% fluctuation for electricity income not correct. Please correct. The value for +35% fluctuation for electricity income was corrected in PDD. The figures in 26_confidential Aralik Financial Model_22112010 has also to be corrected. After correction of the file the point was closed.</p> <p>l. PDD v02 page 12: For discussion of outcome of sensitivity analysis please refer precisely to the highest values in the sensitivity analysis and compare with benchmark. A text passage with the discussion of the best case scenario was added. The discussion is reasonable and backed up with evidence. The point was closed.</p>	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			<p>All updates were accepted and all points and subsequently also <b>CAR07</b> was closed.</p> <p>The benchmark was calculated from Turkish Government Bond Rates. The benchmark was calculated of 15 values for Government Bonds in the time frame from 17/04/07 to 17/07/07 just before the date of the investment decision. The source for bond rates is published by Turkish government and therefore highly reliable. The calculation was correct. The selection of government bond rates as a benchmark is in line with the tool for the demonstration and assessment of additionality and suitable for the chosen financial indicator. The average of the bond rate sample was 17.53 %. The risk premium was taken from the website <a href="http://www.stern.nyu.edu">www.stern.nyu.edu</a> as 4.5% for Turkey. The benchmark in the PDD was calculated correctly as 22.03%. The PP also refers to world bank documents about financial benchmarks in Turkey for renewable energy production. A world bank document issued 2009 shows a benchmark of 15%. The PP argues that even with this lower benchmark issued two years later that the investment decision the project would be additional.</p> <p>The PP provided for an excel sheet for the calculation of the IRR. The excel sheet contains working formulas and has a clear and transparent structure.</p> <p>The input figures for the IRR calculation were taken correctly from the FSR.</p> <p>The estimated yearly electricity production for the project activity was taken from the generation licence /68/ and is therefore in line with the “Guidelines for the reporting and validation of plant load factors” version 01.</p> <p>The calculation of the IRR to a value of 13.93% was found correct and in line with the “Guidance on the Assessment of Investment Analysis” version 2.1 which was the valid version at the time of submission of the documents to Gold Standard.</p> <p>For the sensitivity analysis the PP varied the investment costs and the operating costs for plus and minus 10% and the electricity income for plus and minus 35 % to relate to expected rising electricity prices. It was not found necessary to divide the variable electricity income in price and production because both factors will have the same effect on the IRR. The calculations and ranges for the sensitivity analysis were checked and found valid and reasonable. For the variation of the electricity income the highest IRR value of 21,92 was calculated, which is still below the determined benchmark.</p> <p>The best case scenario in which investment costs and operating costs varied for +10% and electricity income for +35% results in an IRR of 25.68%. The argumentation that according to documents which shows an increase of the actual investment costs in relation to the estimated costs from the FSR this scenario is not reasonable was accepted.</p>	

<b>Checklist Question</b>	<b>Ref. ID</b>	<b>MoV*</b>	<b>Comments</b>	<b>Conclusion/ CARs/CLs</b>
E.3.7. If a benchmark is used, is it ensured that it is selected in accordance with the requirements of the tool /methodology and it represents standard returns in the market (not linked to the subjective profitability expectation or risk profile of a particular project developer)?	VVM Para. 110 PDD Section B.5 Passport section H.1	DR	<p>The chosen benchmark of Turkish government bond rates plus the country risk premium is a suitable benchmark for the chosen financial indicator the equity IRR. The data for the benchmark were valid and applicable at the time of the investment decision.</p> <p>It is reasonable to assume that an investor will invest his capital in Turkish bond rates if the predicted rate of return is higher than for the planned project activity.</p> <p>Together with the income from carbon revenue the IRR will increase to 12,41% which is still below the benchmark. The argumentation of the PP that the investors are expecting rising energy prices in the long range that will make the project more profitable is accepted.</p>	Ok
E.3.8. If a barrier analysis has been used, has it been shown that the proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives?	VVM Para. 114 115a-b/116 PDD Section B.5	DR	The PP did not use a barrier analysis in the demonstration of additionality.	Ok
E.3.9. Is the discussion on additionality consistent with the	VVM Para. 105 PDD Section B.5	DR	As pointed out in C.3.1. the baseline is defined by the methodology.	Ok

<b>Checklist Question</b>	<b>Ref. ID</b>	<b>MoV*</b>	<b>Comments</b>	<b>Conclusion/ CARs/CLs</b>
identification of all plausible and credible baseline scenarios?				
E.3.10. If a barrier analysis has been used have the 'guidelines for objective demonstration and assessment of barriers' been followed? Have all applicable steps been considered and substantiated with objective evidence?	VVM Para 113 EB 50 Annex 13	DR	The PP did not use a barrier analysis in the demonstration of additionality.	Ok
E.3.11. Do the identified baseline scenarios include technologies and practices that include outputs or services comparable with the proposed Gold standard/CDM project activity? Do they also abide by the same applicable laws and legislations?	VVM Para. 105 PDD Section A.4.3/B.5	DR	As pointed out in C.3.1. the baseline is defined by the methodology.	Ok
E.3.12. Has it been shown that the project is not common practice?	VVM Para. 119a/b PDD Section B.5 Toolkit	DR	The common practice analysis was based on a list of private owned HEPPs in Turkey from an official TEIAS source /32/. The statement that 0.78% of the total generation capacity of Turkey in 2007 is correct. The PP provided in annex 7 of the PDD for most of these plants information via weblinks and TEIAS statistics about their original operational concepts like autoproducers, build-operate-transfer projects or VER projects. For	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
	section 3.5.1 b (additionality check)		<p>some of the plants the generation licences were switched to independent power producer afterwards according law no: 4628.</p> <p>In the common practice analysis evidence for the statement of the owner of Tanta HEPP was missing. PDD v02 page 13: The share of generation capacities for private generation companies that are neither BOT or autoproducers in relation to the total generation capacity of 0.003 % is not correct. For these two points <b>CAR08</b> was raised.</p> <p>In PDD ver. 03 the link <a href="http://www.bmholding.com.tr/index1.php?CatId=140&amp;LId=2">http://www.bmholding.com.tr/index1.php?CatId=140&amp;LId=2</a> was corrected and the <a href="http://www.bmholding.com.tr/index1.php?CatId=602&amp;topCatId=509&amp;upCatId=509&amp;satrs=1&amp;sayrs=25&amp;LId=2">http://www.bmholding.com.tr/index1.php?CatId=602&amp;topCatId=509&amp;upCatId=509&amp;satrs=1&amp;sayrs=25&amp;LId=2</a> refer to the Tanta HEPP. The evidence that the plant is owned by BM Holding A.S. and that Özgür Elektrik Üretim is a subsidiary of the Holding is accepted as sufficient. The point was closed.</p> <p>The figure for the share of generation capacities for private generation companies is corrected to 0.03 %. This figure is correct. The point was closed.</p> <p><b>CAR08</b> was closed out.</p> <p>The list and the references were checked and found valid in PDD version 4 /1g/. The conclusion of the PP that at the end of 2007 only 0,03% of the total installed capacity was produced by private owned run-of-river HEPPs which have an original licence as independent power producer and no information could be gathered about financial incentives or VER revenues was accepted.</p>	
E.3.13. What are the key distinctions between the project activity and any similar projects that are widely used as common practice?	VVM Para. 118, 119c/d PDD Section B.5	DR	<p>The list of comparable project activities from the TEIAS source is highly reliable. Therefore Turkey is selected as the defined region for comparable projects which is accepted as a conservative approach.</p> <p>The distinctions between the project activity and the similar projects are the project implementation as autoproducers or build-operate-transfer projects.</p> <p>The statement of the PP that autoproducers, which are not fully liable to market conditions as well as build-operate-transfer projects in which the risks are shared between lenders and sponsors face different conditions as independent power producers was accepted and found valid.</p>	Ok
E.3.14. Are all assumptions used to demonstrate additionality conservative?	Toolkit section 3.5.1 b (additionality check)	DR	As discussed in the comments above, all assumptions which are used for the demonstration of the additionality are conservative.	Ok

## F. GHG emission reduction estimation check (*compliance with the methodology and Gold Standard conservativeness principle*)

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
F.1. Has the approved methodology been applied correctly for determining emission reductions?	VVM Para. 91d PDD Section A.4.4/B.6 Passport section H.2	DR	<p>The small scale methodology AMS I.D. version 14 is correctly quoted and applied. The methodology refers in point 10.(a) to the “Tool to calculate the Emission Factor for an electricity system” for the calculation of a combined margin emission factor.</p> <p>The selection of the most recent available data vintages refer for all relevant chapters of the PDD to 2007. The submission of the documents to GS was 09/2009. Therefore the data for 2008 should have been already available. <b>CAR09</b> was raised.</p> <p>The PP commented that the documents have been uploaded to registry on 18/08/2009. The 2008 data vintage were not available at that time. TEIAS published data usually by November or October earliest for previous year. Therefore, the data vintage is left as 2007 being the most recent year.</p> <p>This statement was confirmed by checking the document history of the excel files on the TEIAS website (<a href="http://www.teias.gov.tr/istatistik2009/index.htm">http://www.teias.gov.tr/istatistik2009/index.htm</a> ) the statement of the PP that the documents were published in October or November could be confirmed. The data vintage is correctly chosen.</p> <p><b>CAR09</b> was closed out.</p> <p>The PP has applied the tool correctly. The combined margin emission factor was calculated correctly to 562 tCO<sub>2</sub>/GWh.</p>	Ok
F.2. Are the emission reduction calculations documented in a complete and transparent manner?	VVM Para. 91e PDD Section B.6 Passport section H.2	DR	<p>Due to an not covered GS comment from the pre-feasibility assessment /17/ in PDD ver. 02 <b>CAR10</b> was raised. PDD, page 17: Formula (1) is unreadable. The formula was corrected in PDD version 04. <b>CAR 10</b> was closed.</p> <p>The calculation of the emission reduction was done according the additionally tool. The PP provided an excel sheet /55/55a/55b/ with working formulas.</p>	Ok

<p>F.3. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?</p>	<p>PDD Section B.6 Passport section H.2</p>	<p>DR</p>	<p>According to the methodology no discussion of other acceptable alternative models was necessary. The projection is based on the same procedures as used for the monitoring.</p>	<p>Ok</p>
<p>F.4. Is the calculation of the emission reductions correct?</p>	<p>VVM Para. 91e PDD Section B.6 Passport section H.2</p>	<p>DR</p>	<p>The calculation for the emission reductions were checked (and found correct). The yearly emission reductions were calculated on the basis of the CM emission factor of 562 tCO<sub>2</sub>/GWh and the yearly electricity production taken from the generation license of 45.150 MWh. The yearly emission reduction was calculated correctly as listed in the PDD in A.4.3 and b.6.4 of 25,374 tons.</p>	<p>Ok</p>
<p>F.5. Is the form/table required for the indication of projected emission reductions correctly applied?</p>	<p>PDD Section A.4.4/ Section B.6 Passport section H.2</p>	<p>DR</p>	<p>The table for the indication of the projected emission reductions is correctly applied. It starts at 01/05/2010 and ends at 30/04/217after seven years.</p>	<p>ok</p>

## G. Sustainability assessment

<i>Checklist Question</i>	<i>Ref. ID</i>	<i>MoV*</i>	<i>Comments</i>	<i>Conclusion/ CARs/CLs</i>
G.1. Has a 'Do no harm assessment' been conducted and is all information accurate and complete?	GS v2.1 VII.a.1. Passport section F.1	DR	A "Do no harm assessment" is included in the GS Passport. All information is accurate and complete.	Ok
G.2. Has the sustainability monitoring plan been filled and found accurate and complete?	GS v2.1 VII.a.3.	DR	A sustainability monitoring plan has been filled and all information found accurate and complete. .	Ok
G.3. Has an environmental impact assessment been conducted on all level?	GS v2.1VII.a.4.	DR	An environmental impact assessment was officially not required for the project as proofed by the reference /14/. The PP provided a preEIA study /59/ for which also an English summary /62/ was provided. The PP refers to the results from this preEIA study and also makes a complete assessment according the WCD checklist from Annex C of the GS toolkit. These assessments cover all relevant level of environmental impacts.	Ok
<b>G.4. Do No Harm Assessment</b>				

<p>G.4.1. Does the project conform to the GS safeguarding principles?</p>	<p>GS v2.1VII.b.1. Passport section F.1</p>	<p>DR</p>	<p>After the first check of the DNH assessment in PDD version 02 /1b/ several points have to be clarified and <b>CL14</b> was raised.</p> <ol style="list-style-type: none"> <li>1. SP8: The discussion of health and safety concerns is not sufficient.</li> <li>2. SP10: The discussion about affected habitats should be more substantiated.</li> <li>3. SP11: Please extend the discussion about corruption.</li> <li>4. GS passport v02 page 13: For safeguarding principle 2 the reference to the expropriation decision is missing. The entry in the expropriation document page 10 line 3, in which a house is mentioned has to be explained if resettlement had happened.</li> </ol> <p>The PP provided a revised discussion in GS passport /02f/ .</p> <ol style="list-style-type: none"> <li>1. SP8: The discussion of health and safety concerns is more detailed and refers to the work with high voltages. Discussion and mitigation measures were accepted. Point is closed.</li> <li>2. SP10: The discussion was revised. The reference to the pre-EIA is correct and reliable. A further discussion for biodiversity is detailed in the SD matrix. According to the observations during the site visit this kind of river habitats are quite common in the region. The point is closed.</li> <li>3. SP11: The explanation of the PP that corruption is illegal in Turkey and a criminal issue which is difficult to secure unless by a criminal investigation. was evaluated as sound and correct. Further discussion and evidences about this safeguarding principle would not be requested any more. The point is closed.</li> <li>4. GS passport v02 page 13: For safeguarding principle 2 the PP referred in his discussion to the expropriation decision and explained that the expropriated house belongs to the project manager. This was confirmed by checking the expropriation decision. The point is closed.</li> </ol> <p><b>CL14</b> was closed out.</p> <p>The project conforms to the GS safeguarding principles. All project risks for breaching the principles were assessed with low. These assessments were accepted. In most cases the PP refer to the binding international conventions and agreements signed by Turkey. This line of argumentation was accepted.</p>	<p>Ok</p>
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G.4.2.			<p>SP 1: Ratification of European Convention on Human Rights is correct and accepted.</p> <p>SP2: No resettlement took place for the project activity. That was verified by the expropriation document /48/ and by the observations during the site visit.</p> <p>SP3: No critical cultural heritage according to the preEIA /59/. This was confirmed during the site visit.</p> <p>SP4: Ratification of ILO 87 and 98 conventions by Turkey is correct. Assessment accepted.</p> <p>SP5: Ratification of ILO convention 29 and 105 by Turkey is correct. Assessment accepted.</p> <p>SP6: Turkey is a party of IPEC since 1992 and ratified ILO convention 138 and 182 is correct. Assessment accepted.</p> <p>SP7: Turkey has ratified ILO convention 100 and 111 is correct. Assessment accepted.</p> <p>SP8: This principle is also assessed with low but a mitigation measure is defined to ensure that the workers are trained and necessary safety equipment will be provided. The assessment and the mitigation measure is accepted.</p> <p>SP9: The risk of a threat to human health was by falling into the channel was assessed as low because as a mitigation measure fences were build around the weir. Assessment and mitigation measure were accepted. The project has no risks of threat to the environment. The possible impact on the habitat is discussed in the</p> <p>SP10: No critical habitats as defined are located in the project area. This can be confirmed by the preEIA /58/ and by the results of the site visit.</p> <p>SP11: The statement that Turkey has ratified several conventions on bribery and corruption including OECD and UN conventions is correct. Assessment was accepted.</p>	
G.4.3. In case any safeguarding principles have been violated, has the PP provided convincing data/arguments that this will be rectified and the appropriate monitoring will be put in place?	GS v2.1VII.b.2. Passport section F.1	DR	<p>For two safeguarding principles the PP has identified low risks and has defined mitigation measures.</p> <p>The assessments of the PP about the risks were reasonable and appropriate to the possible violation. The mitigation measures were suitable for the identified risks and were accepted.</p> <p>The mitigation measures were transmitted to the monitoring tables as pointed out in section J of this checklist.</p>	Ok
G.4.4. Have all impacts been considered and are the outcomes in accordance with existing data?	Toolkit 2.4.1	DR	All impacts have been considered and the outcomes are in accordance with the data from the project documentation /1h/2j/3a/ , the FSR /47/, the preEIA /59/ and the site visit.	Ok
<b>G.5. Detailed Impact Assessment – Sustainable Development Matrix</b>				

<p>G.5.1. Has the detailed impact assessment been duly filled and found accurate and complete?</p>	<p>GS v2.1VII.c.1. Toolkit 2.4.2 Passport section F.2</p>	<p>DR</p>	<p>The first analysis of the sustainable development indicators have revealed several open points which are addressed in CAR15.</p> <ol style="list-style-type: none"> <li>1. GS passport v02 page 15: Indicator Other Pollutants: Waste and sewage management not included. The regulation for oil disposal has to be named and provided .</li> <li>2. GS passport v02 page 15: Indicator Biodiversity: Expert study not included as a monitoring plan.</li> <li>3. GS passport v02 page 17: SD matrix. For indicator Water quantity/quality waste water is missing as a parameter.</li> <li>4. GS passport v02 page 17: SD matrix. The baseline for the parameters have to be defined for all parameters.</li> <li>5. GS passport v02 page 20: Indicator Livelihood of the poor. Number of locally recruited staff is not a suitable parameter.</li> <li>6. GS passport v02 page 23: Justification for water quality and quantity. The expression firm flow has to be explained. Where does the flow rate of 2.5 m3/s comes from which is the basis for the calculation of the minimum flow for turbine operation. In section 2.1.4 in FSR only 0.1 m3/s of water is mentioned.</li> <li>7. GS passport v02 page 23: Justification for water quality and quantity. A statement about minimal flow is missing. Definition of minimal flow, the relevant regulation, who and how it will be measured and the control of the data.</li> <li>8. GS passport v02 page 24: Justification for parameter Soil condition. The regulation dated 02/09/1997 has to be provided as a document or by a reference link. The regulations for the disposal of waste have to be named and provide the document as a hard copy or via a reference link. The last sentence in the section is incomplete.</li> </ol>	<p>Ok <b>FAR32</b></p>
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9. GS passport v02 page 24: Justification for parameter Other pollutants. Only noise is discussed. Dust emissions have also to be discussed with a reference to the pre-EIA with page number. Reference for “Solid waste control regulation” is missing. Regulations for disposal of waste oil have to be named and provided..
10. GS passport v02 page 25: Justification for parameter Biodiversity. Discussion about amount of minimum flow regarding share and total amount is missing. The expert statement has to be added to the monitoring tables.
11. GS passport v02 page 26: Justification for parameter Quality of Employment. Discussion about training updates is missing.
12. GS passport v02 page 27: Justification for parameter Quantitative employment and income generation. An estimation or the actual share of locally employed people is missing.

The PP revised the SD matrix in the GS passport ver. 04 and 05.

1. GS passport page 15: Indicator Other Pollutants: Waste management is included. Sediment management is included under the indicator soil condition. In the justification section the PP refers to the regulations for control of dangerous wastes, for petroleum and waste oil. The regulation for the control of dangerous wastes published in the official gazette no 22387 and circular about oil wastes and used oil published in official gazette no 2240-5249 and 4473-7756 were verified. The point is closed.
2. GS passport page 15: Indicator Biodiversity: The explanation of the PP that the monitoring will be defined after the expert study was finalized was accepted. To assure that the monitoring will be adopted according to the results of the expert study **FAR#32** was raised. The point is closed. .
3. GS passport v02 page 17: SD matrix. For indicator Water quantity/quality waste water was added as a parameter. Point is closed.
4. GS passport v02 page 17: SD matrix. The addition of the baseline for tech. transfer is accepted. The baselines for soil erosion and sediment passage were added. The point is closed.
5. GS passport v02 page 20: Parameter “number of locally recruited staff” was omitted. Parameter definition is not in line with GS toolkit annex I. Point is closed.

			<p>6. GS passport v02 page 23: Explanation for firm flow added. The flow rate of 2.5 m<sup>3</sup>/s is the maximum capacity of the turbines. This part of the justification section is clear now and has a reasonable statement that the effects of the plant for the river flow are reduced to a 60% of the year. Point is closed.</p> <p>7. GS passport v02 page 23: Justification for water quality and quantity. Added discussion about minimum flow is clear and sufficient. Point is closed.</p> <p>8. The no. of the official gazette in which the regulation was published was provided. The regulation was checked and found valid. The Point was closed.</p> <p>9. The added discussion about dust emission is clear and sufficient.. The regulation for "Solid waste control regulation" was issued in official gazette no. 20814 and found valid. The regulations for disposal of waste oil were already checked in point 1. The Point is closed.</p> <p>10. GS passport v02 page 25: Justification for parameter Biodiversity. The added discussion about amount of minimum flow is clear and sufficient. The expert statement is added. . Point is closed.</p> <p>11. GS passport v02 page 26: The explanation that safety training will be repeated if necessary was accepted as sufficient. The point is closed.</p> <p>12. GS passport v02 page 27: Justification for parameter Quantitative employment and income generation. The estimation about the actual share or locally employed staff has been added. Point is closed.</p> <p><b>CAR15</b> was closed out.</p> <p><b>CAR29</b> was raised for the clarification why the construction of the transmission line was not covered in the SD matrix. This issue was already covered in CAR18 and discussed and closed there. <b>CAR29</b> was closed.</p>	
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			<p>In the GS passport ver.08 /02k/ the detailed impact assessment was found accurate and complete.</p> <p>The project boundaries for the sustainable development parameters were chosen suitable for the selected parameters. For every indicator the PP has defined suitable parameters which represent the status of the indicator.</p> <p>The scoring of the indicators is reasonable and backed up with evidences. No indicator was scored negative, three were scored positive and nine were scored neutral.</p> <p>The main categories 1 and 3 were scored positive in total and therefore the GS requirement for the scoring of the indicators is fulfilled.</p>	
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<p>G.5.2. Are the SD indicators properly identified in the PDD? Have data been collected in order to monitor the projects performance on the sustainable development indicators? Are crucial indicators marked with an asterisk and included in the monitoring plan?</p>	<p>GS v2.1VII.c.2. Passport section F.2</p>	<p>DR</p>	<p><b>Air quality</b>          The relevance to MDG 7.A and 7.B is correct as checked by <a href="http://www.mdgmonitor.org">http://www.mdgmonitor.org</a>. The parameter definition of SO<sub>2</sub> and NO<sub>x</sub> is in line with the Annex I. The baseline is referring to the SO<sub>2</sub> and NO<sub>x</sub> emissions by fossil fuel combustion which is reasonable and accepted. The positive scoring is accepted.</p> <p><b>Water quality and quantity</b>          The definition of the securing of minimal flow and the waste water management as mitigation measures is in line with the FSR and the general project design. The definition of the parameter “amount of water released and disposal of waste water” are clearly related to water quantity and water quality, considering that the waste would be released into the channel. The baseline definitions are logical. The neutral scoring is accepted</p> <p><b>Soil condition</b>          The definition of the mitigation measures of disposal of excavation wastes and sediment management at the weir are accepted. The parameters “excavation waste, soil erosion and sediment passage are accepted. Only erosion is clearly meant in Annex I, but unregulated disposal of excavation waste and sediment accumulation also alters the soil quality in relevant area. The baseline definitions are logical, all parameters won’t be changed at all without the project activity. The neutral scoring is accepted.</p> <p><b>Other pollutants</b>          As the mitigation measure the storage, treatment and disposal of waste is defined. As parameters solid and liquid wastes, dust and noise generation during construction and operation phase are defined. This is in line with Annex I which refers directly to noise and includes all other pollutants that are not already mentioned. This is in line with the FSR and the pre-EIA. Relevant dust and noise generation will only occur during the construction phase. The baseline definitions are logical, all parameters won’t be changed at all without the project activity. The neutral scoring is accepted.</p> <p><b>Biodiversity</b>          The defined mitigation measure “Securing minimum water depth in fish passage for migration” is accepted. The corresponding parameters minimum flow, water depth for fish migration are no direct parameters for biodiversity but in regard to the project scale suitable to determine the effect on biodiversity of the projects. The selection was accepted.</p> <p>Gold Standard project applicants shall assess their project activities against a series of twelve Sustainable Development Indicators in three categories: Environment</p>	
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			<p>The baseline is definitely the situation with the natural flow of the river. These assumptions were accepted. Because it is difficult to determine the effectiveness of the fish passage and the minimum flow for the biodiversity the PP added a third party study on this issue in the monitoring plan. This approach was accepted as the results of the study will show clearly if the mitigation measures were effective. The neutral scoring is accepted.</p> <p>Quality of employment        The defined parameter “number of certificates for security trainings” and the defined mitigation measure “health and safety trainings for operation and maintenance for the technical staff” are relevant parameters for the quality of employment for the project activity and in line with annex I which refers to labour conditions. The baseline was defined as no certificates issued which were accepted. The neutral scoring on the basis of this mitigation measure was accepted.</p> <p>Livelihood of the poor        The reference to the MDG target 1.A is correct. The defined parameter poverty alleviation and voluntary contributions are in line with annex I. The voluntary contributions in general support the living conditions for the people in the community and were summarized under this indicator. This approach was accepted. The decision of the PP to score this indicator neutral although the voluntary contributions would have a positive aspect on the community was accepted because the measurement would be difficult and not only related to poor people.</p> <p>Access to affordable and clean energy services        The defined parameter “fossil fuel replaced” is in line with annex I and was accepted. The discussion of the baseline and the effect on the parameter is justified. The PP decided to score the parameter neutral although a positive effect would be expected. The conservative scoring of parameters is accepted as long as the minimum positive scoring of the main categories is fulfilled.</p> <p>Human and institutional capacity        The defined parameter is in line with annex I and was accepted. The PP stated that he would expect a certain positive impact of the project on the parameter. The decision to score the indicator neutral was accepted because the effect was assessed as very small and difficult to measure.</p>	
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			<p>Quantitative employment and income generation          The reference to the MDG target 1.B is correct. The defined parameter “payment made to staff” was addressed in the monitoring plan as “number of locally recruited staff”. This has to be adapted. The parameter is in line with the annex I and was accepted. Because it is planned that local people will be employed the positive scoring of the indicator was accepted.</p> <p>Balance of payments and investment          The reference to the MDG target 8.D is correct. The parameter currency saving for imported fossil fuel is correctly quoted from annex I. The discussion about the baseline and the effects of the project are reasonable and were accepted. The positive scoring was accepted.</p> <p>Technology transfer and technological self-reliance          The reference to the MDG target 8.F is correct. The defined parameter “expenditures for equipments” is correctly quoted from annex I. The equipment will be imported. The PP stated that the project will bring modern technology to Turkey. Due to the fact that there exist several wind parks in Turkey the neutral scoring of the indicator was accepted.</p>	
G.5.3. Do all data and statements used in the SD Matrix are based on reliable and transparent sources of information?	GS v2.1VII.c.4. VII.c.5. Passport section F.2	DR	<p>Where necessary the PP provided reliable sources to back up his scoring of the indicators.          Air quality - /49/          Water quality and quantity - /47/46/101/          Soil condition - /46/47/          Other pollutants - /46/          Biodiversity – /46/56/          Quality of employment – not necessary          Livelihood of the poor - /11/          Access to affordable and clean energy services - /32/          Human and institutional capacity – /03a/ not necessary          Quantitative employment and income generation – /11/ not necessary          Balance of payments and investments /70/          Technological transfer and self-reliance - not necessary</p>	Ok
G.5.4. Sustainability monitoring plan		DR	The PP defined twelve monitoring tables in the GS passport. Comments see in detail in section J	Ok

## H. Stakeholder Consultation

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
<p>H.1. Has the local stakeholder consultation been implemented as per GS requirements?</p>	<p>GS v2.1VIII.b.1. Toolkit 2.6 and 2.11 Passport section E.1</p>	<p>DR</p>	<p>The PP organized a local stakeholder meeting on 12.05.2009 /3a/. During the site visit on 14/07/2009 it was getting clear that the project activity has to apply for registration according the retroactive project cycle and therefore a local stakeholder consultation was not required any more. In the following this meeting will be addressed as preliminary stakeholder meeting.          For the above mentioned reason it was not necessary to adopt the template version to GS version 2.1. and the preliminary stakeholder meeting was not assessed according to the requirement for the local stakeholder consultation.</p> <p>The term 'Local Stakeholder Consultation' should not be used in the context of retroactive projects. The term 'Preliminary Stakeholder Consultation' should be used to refer to this first meeting in the revised project documentation.          In section E.1. of the PDD the term is not corrected and for figure 9 it should be corrected to preliminary. This is also valid for the abbreviation LSC. <b>CAR16</b> was opened.          After the correction of the PDD ver.03 /01d/ and the GS passport /02d/ the term 'Local Stakeholder Consultation' nor the abbreviation LSC were not found in PDD or GS passport. <b>CAR16</b> was closed out.</p> <p>According to an GS comment the PP has to explain why no potential effects on stakeholders by the 12 km transmission line were discussed. The comment of the PP that the transmission line is in the responsibility of TEIAS and only 5 km long was assessed as not sufficient and <b>CAR18</b> was raised.          The PP states that according to the system connection agreement /57/ the transmission line is owned by TEIAS but the construction of the transmission line can be delegated to the project owner to grant the opportunity to speed up the construction process of the system connection. No expropriation of private land was enforced for the construction of the transmission line. After checking of the system connection agreement /57/ and the expropriation decision /48/ this argumentation was accepted and <b>CAR#18</b> was closed.</p>	<p>ok</p>

<p>H.2. Has evidence been provided that the PP informed the DNA about the existence of the project activity?</p>	<p>GS v2.1VIII.b.2. Passport section E.1</p>	<p>DR</p>	<p>Turkey has no DNA installed yet. The NFP of Turkey is the Ministry of Environment and Forestry.</p> <p>The formal information of the national focal point could not be verified, because the NFP Mr. Mustafa Sahin from the Ministry of Environment and Forestry was listed on the invitation list for the preliminary stakeholder meeting but not submission receipt was provided. Therefore <b>CAR02</b> was raised.</p> <p>The PP stated that representatives of the NFP were invited. This was confirmed for the preliminary stakeholder consultation by the invitation tracking table and the post receipts /03a/50/, for the stakeholder feedback round by the invitation tracking table in annex 2 GS passport /02k/ and in collection of mail receipts /86/ in which Mrs. Fulya Somunkiranoglu who is Head of the Climate Change Department at the Ministry of Environment and Forestry, Turkey was listed. The invitation letter is accepted as a formal information of the Turkish focal point. <b>CAR02</b> was closed out.</p>	<p>Ok</p>
<p>H.3. Has the date the local stakeholder consultation was conducted been verified?</p>	<p>GS v2.1VIII.b.3. Passport section E.1</p>	<p>DR</p>	<p>After an initial stakeholder consultation on 12.05.2009 the project was identified as retroactive and therefore a local stakeholder consultation is not required. The project was checked in a pre feasibility assessment by GS and the stakeholder feedback round has to address the findings of this assessment.</p> <p>Therefore the initial stakeholder consultation will be addressed as a preliminary stakeholder consultation pSC. This consultation is not required in the retroactive project cycle and therefore a compliance with the requirements for the local stakeholder consultation was not assessed here.</p> <p>Nevertheless the date of the pSC was assessed by the presented newspaper ads and the interview with the local stakeholders during the site visit.</p>	<p>Ok</p>
<p>H.4. How was the location of the public meeting been verified?</p>	<p>GS v2.1VIII.b.5. VIII.b.6. Passport section E.1</p>	<p>DR</p>	<p>See comments in H.3.</p> <p>The location has been verified by the provided newspaper ads in the GS passport and by the stakeholder interviews during the site visit.</p>	<p>Ok</p>
<p>H.5. Has all reporting requirements for the stakeholder consultation been fulfilled?</p>	<p>GS v2.1VIII.b.8. Passport section E.1</p>	<p>DR</p>	<p>See comments in H.3</p> <p>The reporting requirement for preliminary stakeholder consultation are met.</p>	<p>Ok</p>
<p>H.6. <b>Stakeholder feedback round</b></p>				

<p>H.6.1. Has the local stakeholder consultation follow up been implemented as per GS procedures?</p>	<p>GS v2.1VIII.d.1. Passport section E.2</p>	<p>DR</p>	<p>The stakeholder feedback round was implemented according to the requirements for a retroactive project cycle.          The stakeholder feedback round started at 20/04/2010. The documents project PDD and GS passport were provided over the GTE homepage as shown by a screen printout /102/.          The pre-feasibility assessment defined the following parameters as necessary for second stakeholder consultation round.</p> <ul style="list-style-type: none"> <li>▪ Use of a proper participant code in the invitation tracking table</li> <li>▪ Invitation of all relevant participants</li> <li>▪ Invitation of all relevant regional offices of the 5 international GS NGO supporters</li> <li>▪ A site visit</li> <li>▪ All points from the pre-feasibility assessment are taken into account</li> <li>▪ A summary of stakeholder comments and action taken to resolve the issues.</li> <li>▪ A copy of all postings, flyers and other means for invitation of stakeholder.</li> <li>▪ A clear list of all meeting attendees.</li> <li>▪ Original filled-in copies and questionnaires that were distributed.</li> </ul> <p>In the GS passport version 02 /02d/ the PP added in section E.2. a description of the stakeholder feedback round. The PP organized a physical meeting. The invitation table for the SFR meeting is given in annex 2 of the GS passport /02k/. The participant codes are addressed correctly. All relevant participants were invited. A copy of the invitation letter is given in the annex of GS passport /02d/.</p> <p>In the first round of documentation the PP did not provide a list with all invited stakeholders for the SFR with the correct category codes. <b>CAR17</b> was raised. In the list of invitees provided by the PP with the updated GS passport /02f/ the category codes were still not correct and the invitation mail for the GS regional in annex 2 was not readable. In GS passport /02h/ the category codes for the stakeholders named under 1, 2, 3, 4 are corrected. The invitation mail for GS regional office was provided in a legible version. The invitations are accepted. And in GS passport /02j/ the missing stakeholders from the email were added into the invitation list in the revised GS passport. <b>CAR17</b> was closed</p>	<p>Ok</p>
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			<p>The GS comments from the pre-feasibility assessment about the second round of stakeholder consultation were not covered sufficiently and <b>CAR19</b> was raised.</p> <ol style="list-style-type: none"> <li>1. The description of the SFR meeting is not sufficient. It can not be validated if all relevant points have been discussed.</li> <li>2. No stakeholder comments from the SFR meeting are listed.</li> <li>3. No news paper ads or other kind of announcement were provided. Does that mean that the invitations were only done by personal letters and how were the people living in the settlements and nearby the project been invited to the stakeholder meeting?</li> <li>4. A list of meeting attendees has been added as annex 3. Please add a heading to annex 3. No telephone numbers are provided.</li> </ol> <p>The PP revised the section of the stakeholder feedback round in the GS passport /02f/02h/.</p> <ol style="list-style-type: none"> <li>1. A meeting report was added in section E.2 in the GS passport /02f/. All relevant points are covered. Summaries of the project documentation were provided /106/. The date of the SFR meeting has been added and the duration of the stakeholder feedback commenting period.</li> <li>2. GS passport v02 page 48. A list with translations of the original feedback forms of the stakeholder feedback round has been provided. The point is closed.</li> <li>3. News paper adds for the invitation of the local stakeholders to the stakeholder feedback round were provided by the PP /63/64/ and added to the GS passport annex 2. Point is closed.</li> <li>4. A heading to annex 3 "SFR Meeting Participant List" was added. Telephone numbers of some participants were provided. The point that not for all participants contact details are available was accepted. The point is closed.</li> </ol> <p><b>CAR19</b> was closed.</p> <p>In the GS passport version 02 /02d/ the PP added in section E.2. a description of the stakeholder feedback round. The PP organized a physical meeting. The invitation table for the SFR meeting is given in annex 2 of the GS passport /02k/. The participant codes are addressed correctly. All relevant participants were invited. A copy of the invitation letter is given in the annex of GS passport /02d/.</p>	
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H.6.2.			The relevant regional offices were invited via an email. A screen copy of the mail is provided in the annex of the GS passport /02k/. The PP gives a short report of the meeting indicating that the technical aspects of the project were discussed as well as the SD matrix. Therefore all relevant points of the pre-feasibility assessment were covered. The PP provided a list of all comments from the feedback forms filled during the meeting in annex 4 of the GS passport /02k/ and the scanned original versions. All negative relevant comments were already covered by mitigation measures and monitoring tables. The PP provided the scanned version and a clear list of the meeting attendees. In the GS passport /02k/ the PP provided scanned copies of the newspaper invitations and the email invitation to the NGOs.	
H.6.3. Are all relevant documents accurate and complete and have they been made available to stakeholders?	Passport section E.2	DR	The documents were provided via the GTE website /102/ and Turkish summaries of the project documentation were provided by the PP. /106/	Ok

### I. Pre-feasibility assessment (*has Gold Standard feedback been followed up*)

<b>Checklist Question</b>	<b>Ref. ID</b>	<b>MoV*</b>	<b>Comments</b>	<b>Conclusion/ CARs/CLs</b>
I.1. Does the project require a pre-feasibility study? If yes, has all the documents as per table 2.7 of the toolkit been appropriately assessed?	GS Toolkit 2.5.2/3	DR	The project applied for retroactive project cycle. The date of the construction permission /66/ was the 21/03/2009 which was defined at the start of construction. This date lies before the upload of the documents to the GS registry which is the 18/08/2009. Therefore the project is applicable for the retroactive project cycle. The pre-feasibility assessment from GS is dated from 10/03/2010 /17/	Ok
I.2. If the project was rejected by the UNFCC have the documents been assessed with regards to the Gold Standard VER stream before submission?	GS Toolkit 2.5.2/3 and Annex C table 2.7	DR	Not applicable	Ok

<p>I.3. If feedback from the GS pre-feasibility study has been received has this be taken into account?</p>	<p>Toolkit 2.5</p>	<p>DR</p>	<p>Yes, pre-feasibility assessment and comments from PP and from DOE is copied in this report.</p>	<p>Ok</p>
<p>I.4. Is the project already operational or is it applying for gold standard registration after construction or implementation.</p>	<p>Toolkit 2.5.1</p>	<p>DR</p>	<p>The PP provides a board decision /65/ with the consideration of carbon revenue dated on 20/10/2006 which is dated after the issuance of the generation licence and before the feasibility study. Because a generation licence serves in Turkey more than an option as an commitment for the implementation of an project this board decision was assessed as sufficient proof that carbon revenue was taken into account in a very early project phase.</p>	<p>Ok</p>

## J. Check Monitoring requirements and monitoring plan (including sustainability monitoring plan)

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
<p>J.1. Is the sustainability monitoring plan reasonable and in accordance with all other documentation and criteria?</p>	<p>GS v2.1VII.d.1. Passport section G</p>	<p>DR</p>	<p>In the first version of the GS monitoring plan several inconsistent points were found and the following CARs were addressed.</p> <p>No monitoring plan for quantitative income generation was added. The scoring of the indicator is switched to zero. But a stakeholder comment for this issue was raised and therefore a monitoring plan is necessary and <b>CAR20</b> was raised.</p> <p>The PP added the monitoring plan for quantitative income generation in GS passport /02f/ and changed the definition of the parameter to locally recruited staff. <b>CAR20</b> was closed out.</p> <p><b>CAR21</b> was raised for the following points.</p> <ol style="list-style-type: none"> <li>1. The voluntary contributions of the PA to the local communities were not added into a monitoring plan.</li> <li>2. The stakeholder comment disappearance of water streams was not added to a monitoring plan</li> <li>3. The regulation which requires 10% minimal flow was not named and provided by link or hard copy.</li> <li>4. In monitoring plan no.2 the total amount of water should be added.</li> </ol> <p>The PP revised the monitoring plan /02f/02h/02j/.</p> <ol style="list-style-type: none"> <li>1. The PP opened a monitoring table for the voluntary contributions of the PA. For every voluntary contribution a way of monitoring was defined in monitoring table 11. The monitoring by stakeholder statements once after the end of construction was found sufficient for the contribution which has been provided. The point in closed</li> <li>2. For the disappearance of the water streams monitoring table no. 12 has been opened. Due to the fact that the GS comment is difficult to relate to any identified impacts this simple monitoring approach was accepted.</li> </ol>	<p>Ok</p>

3. The link to the regulation /101/ which requires 10% minimal flow on page 18 was updated. The referenced document was found valid. The point was closed
  4. In monitoring table no. 2 the total amount of minimum flow is correctly defined with 150 l/s. The point is closed.
- CAR21** was closed out.

For a further clarification of the monitoring method for the parameter minimal flow **CL22** was raised. The PP states that the PA will install a gauging station and the calculations and flow records will be submitted during the verification. This approach is accepted. The monitoring frequency continuously for checking of the disposal records is understood in the way that each disposal record will be checked after delivery. This approach is accepted and **CL22** was closed.

The monitoring of the parameter excavation waste /02d/ does not include disposal documents and permissions and **CAR23** was raised. In the revised GS passport /02f/ the point that permissions and records of excavation disposal will be monitored after the end of construction was added. This was accepted and **CAR23** was closed.

In the monitoring plan for the indicator “other pollutants” the storage of used oil was not mentioned /02d/ and **CAR24** was raised. The PP added the storage of used oil to the monitoring plan and defined a continuous monitoring interval. Together with the explanation that the oil change will only be done every few years and there will be only short-term storage of oil at the facility this approach was accepted and **CAR24** was closed.

For the monitoring of the adequacy of the mitigation measures for maintaining the current level of biodiversity the PP had to refer to the regulation which defines a minimum flow of 10% and had to add the independent third party study about the functionality of the fish passage and the sufficiency of the minimal flow to the monitoring plan. For these points **CAR25** was raised. In the revised GS passport /02h/ the link was provided as already pointed in CAR21 and the expert study was added to monitoring plan no.4. **CAR25** was closed.

In the monitoring table 7 /02d/ the definition of regular updates for trainings was missing and **CAR26** was raised. The PP states that the regular updates can not be defined at this point of the project implementation. This was accepted and **CAR26** was closed.

			<p><b>FAR31</b> was raised to check if a suitable assessment of the PA is available for the necessity of regular qualification refreshments.</p> <p>In GS passport v02 page 34, monitoring table 6, the reference for the gas price are not correct and <b>CAR27</b> was raised. In GS passport ver.04 the correct link was added and the historical NG prices were available. The statement of the PP in the monitoring table about the NG prices can be confirmed and <b>CAR27</b> was closed.</p> <p>In the GS passport /02k/ twelve monitoring tables for the monitoring of sustainability parameters are listed.            The monitoring is reasonable and in accordance with the other documentation and criteria.</p>	
J.2. Has a bottom-up approach been used and all relevant details included?	Toolkit 2.4.3 Passport section G	DR	In the monitoring tables the current status, the baseline status and the future target of the parameter is defined. For details, see assessment in the J3 to J6. The definition follows a bottom-up approach and is sufficiently proportionate to the project size.	Ok

<p>J.3. Are all non-neutral parameters being monitored?</p>	<p>Toolkit 2.4.3 Passport section G</p>		<p>Yes, the non-neutral scored (positive) indicators were the indicators air quality, balance of payments and quantitative income generation. See the assessment of the monitoring table below.</p> <p><b>MP No.1 Air quality</b>        The indicator was scored positive and has to be monitored. For the monitoring of the parameters SO<sub>2</sub> and NO<sub>x</sub> the PP refer to emissions charges from the National Inventory of Turkey /49/. The source is reliable. The discussion of baseline, parameter situation and target is correct. The monitoring will be done yearly which is accepted.</p> <p><b>MP No. 6 Balance of payments</b>        The indicator was scored positive and has to be monitored. The monitoring of the parameter currency saving by a yearly calculation of the currency savings from the amount of gas import that will be saved by the electricity production of the project activity was accepted. The related databases for the calculation are official TEIAS statistics and therefore accepted /70/44/.</p> <p><b>MP No. 10 Quantitative Income Generation</b>        The indicator was scored positive and has to be monitored. The monitoring of the parameter locally recruited staff by an annual check of the employment records was accepted. The future target of the parameter is only referring to locally recruited staff. The target is defined as 4 local staff members.</p>	<p>Ok</p>
<p>J.4. Has an In-depth Sustainability Assessment been conducted in the case negative scores are not neutralized by mitigation measures?</p>	<p>GS v2.1VII.d.2/3 Passport section G</p>	<p>DR</p>	<p>No negative scored indicators that have to analyzed with an in-depth sustainability assessment remained in the sustainability matrix.</p>	<p>Ok</p>

<p>J.5. Have all mitigation and compensation measures put in place to prevent violation or the risk of violating a safeguarding principle of the 'Do No Harm' Assessment or to 'neutralise' a Sustainable Development Indicator being monitored?</p>	<p>GS v2.1VII.d.5.          Passport section G</p>		<p>Yes, there are several mitigation measures which had to be monitored. See discussion of the monitoring tables below.</p> <p><b>MP No. 2 Water Quality and Quantity</b>          Mitigation measures were defined in the SD matrix for minimal flow and waste water disposal. The future target of the parameter minimal flow was defined as minimum 10% of last ten years average (150 L/s). This will be done by flow measurements. This general approach was accepted. To ensure that this minimal flow is sufficient an expert assessment for the adequacy of the minimal flow will be done. This additional check of the parameter target was accepted. The continuous measurement of the data was accepted.          The monitoring of the second parameter waste water by a yearly check of the disposal records was accepted as suitable and sufficient.</p> <p><b>MP No.3 Soil condition</b>          Mitigations measures were defined for the parameters excavation waste, sediment accumulation and erosion and therefore the parameters have to be monitored. The monitoring of the parameter excavation waste by a site visit and the check of permissions and disposal records once after the completion of construction was accepted as sufficient.          The monitoring of the parameter sediment accumulation by site visits was also accepted. The accumulation of sediment can clearly be checked by eyesight. The yearly interval was also accepted because temporary accumulations could be induced by natural fluctuations of the water flow and the long term development is important.          The monitoring of the parameter erosion by yearly site visits was also accepted. The relevant erosion for the project activity would be accumulation of precipitation water due to constructional elements of the facility. This kind of erosion can be spotted by regular visual checks.</p> <p><b>MP No. 4 Biodiversity</b>          A mitigation measure was defined for the parameter and therefore the parameter has to be monitored. The monitoring of the parameter functionality of the fish passage by continuous monitoring of the free flow was accepted. The PP also added to this point the external expert assessment which shall ensure that the future target of the parameter will be reached. If the expert study will find critical points the mitigation measures and the monitoring must be adapted. This approach was accepted.</p>	<p>Ok</p>
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			<p>MP No. 5 Biodiversity          A mitigation measure was defined for the parameter and therefore the parameter has to be monitored. The monitoring of the parameter payment for plantation of new trees by a single check of the payment records after the end of the construction period was accepted.</p> <p>MP No. 9 Other Pollutants          A mitigation measure was defined for the parameter and therefore the parameter has to be monitored. The monitoring of the parameter "storage and disposal of oil and other wastes" by continuous checks of the disposal records and a visual check of the storage facilities for spillage risks was accepted.</p> <p>MP No. 12 Livelihood of the poor          Voluntary contributions were promised to the local communities which have to be monitored. The monitoring of the parameter existence of natural spring by interviews with locals once after the construction is completed was accepted. The point was raised as a comment by a local stakeholder. The PP states that he is not aware of any springs within the boundary of the project activity and can not see any risks that springs should vanish due to the project activity. Therefore the approach of the PP seems adequate to verify if the local stakeholders have experienced any negative effects on springs in the area by the project activity.</p> <p>To follow up the mitigation measures for cut trees and the building of fences <b>FAR28</b> was raised.</p>	
<p>J.6. Are the appropriate indicators and mitigation measures from 'Do no harm' analysis included in the Sustainability Monitoring Plan? I.e. those that deliver the right information to make sure the project continues to have an overall positive impact on the Sustainable development.</p>	<p>Toolkit 2.4.2-3, 2.6</p>	<p>DR</p>	<p>Yes, from the two defined mitigation measures in the DNH analysis monitoring tables were created.</p> <p>MP No. 7 DNH 8 Work Safety          A mitigation measure was defined in the DNH for the safeguarding principle 8 therefore the parameter has to be monitored. The monitoring of the parameter "training records and equipment distributed" by a yearly check of training records and the provided equipment was accepted.</p> <p>MP No. 8 DNH 9 Precautionary Measures          A mitigation measure was defined in the DNH for the safeguarding principle 9 therefore the parameter has to be monitored. The monitoring of the parameter "fences and security measures" by yearly site visits was accepted. The regular control of these facilities is quiet common.</p>	<p>Ok</p>

J.7. Is the sustainability monitoring plan in the GS passport in compliance with GS requirements?	T 2.4.3	DR	Yes, the sustainability monitoring plan is in compliance with GS requirements and reasonable and suitable for the project activity.	Ok
J.8. <b>Data and Parameters</b>				

<p>J.8.1. Does the monitoring plan in the PDD comply with the approved methodology provided 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?</p>	<p>VVM Para. 91a/91d/121/79  PDD Section B.7-B.7.2</p>		<p>The methodology AMS I.D ver. 14 only requires the monitoring of the net electricity supplied by the project activity to the grid. The measurement results shall be cross checked by records of sold electricity. Hourly measurement and monthly recording are required.</p> <p>The PP monitors the net electricity generated EGy and also monitors the fossil fuel used by the backup diesel generator FC<sub>i,j,y</sub>, the installed capacity of the hydro power plant CapP<sub>J</sub> and the area of the reservoir after the implementation of the project activity AP<sub>J</sub> and follows with these monitoring parameter the requirements of the ACM0002 and the requirements for geothermal power plants in AMS I.D ver. 14 which was accepted as a conservative approach.</p> <p>Some open points in the monitor plan were combined in <b>CAR12</b>.</p> <ol style="list-style-type: none"> <li>1. PDD v02 page 27: The exact location of the meters is not clear from the prescription in the PDD.</li> <li>2. PDD v02 page 27: The failure range of the meter readings is not clear from the description in the PDD.</li> <li>3. PDD v02 page 25: You monitor the values CapP<sub>J</sub> and AP<sub>J</sub> although you do not mention in the PDD the calculation of the power density of the power plant.</li> <li>4. PDD v02 page 25: Monitoring table for AP<sub>j</sub>. Statement that no reservoir is created is in contradiction to the measurement procedures above.</li> </ol> <p>The PP revised these points in the PDD ver.03 and 04.</p> <ol style="list-style-type: none"> <li>1. PDD page 28: The exact location of the meters is defined in the PDD ver. 03 as located in the powerhouse. The point is closed.</li> <li>2. PDD page 27: In version 04 of the PDD the typ of the meter and the accuracy class of S 0.5 is mentioned and the PP provided the data sheet for the meter /82/ and calibration protocols /83/. With these information the accuracy of the meter readings is sufficiently specified. The point is closed.</li> <li>3. PDD page 25: The discussion about the power density of the project is not requested in version 14 of the AMS I.D. Therefore the comment in the parameter table for AP<sub>j</sub> is accepted as sufficient. The point is closed.</li> <li>4. PDD page 25: Monitoring table for AP<sub>j</sub> is correct. The data will be collected yearly and checked during the verification. The point is closed.</li> </ol> <p><b>CAR12</b> was closed out.</p>	<p>Ok</p>
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			<p>The monitoring plan contains all relevant parameters according the applicable small scale methodology AMS I.D ver.14.          The means of the monitoring plan are feasible within the project design and sufficient to ensure that the emission reductions can be reported and verified.</p>	
<p>J.8.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?</p>	<p>PDD Section B.7-B.7.2/B.6.2</p>	<p>DR</p>	<p>The PP monitors the parameters          net electricity generated <math>EG_y</math>          fossil fuel used by the backup diesel generator <math>FC_{i,j,y}</math> ,          installed capacity of the hydro power plant <math>Cap_{PJ}</math>          area of the reservoir after the implementation of the project activity <math>AP_J</math></p> <p>Only the parameter <math>EG_y</math> is required by the methodology AMS I.D ver.14. The selection of the other parameters follows the requirements of the large scale methodology ACM0002 and is accepted as a conservative approach. The parameter <math>FC_{i,j,y}</math> and <math>Cap_{PJ}</math> are suitable to demonstrate that no additional reservoir is created.</p>	<p>Ok</p>

<p>J.8.3. Will it be possible to determine the specified project GHG indicators?</p>	<p>PDD Section B.6.2-B.8</p>	<p>DR</p>	<p>The monitoring concept for the parameter <math>EG_y</math> is based on the continual recordings of the two metering devices which are also used for the invoicing of the delivered net electricity generation. These metering devices were possessed by TEIAS. The monthly recordings of the readings and the cross check by the invoices from TEIAS can be verified. The accuracy of the reading can be controlled by the difference of the readings of the main meter to the back-up meter.</p> <p>The installation of the metering devices could not be checked during the site visit because of the early state of construction. Therefore <b>FAR11</b> was raised to check the meters during the first verification.</p> <p>The monitoring of the parameter <math>FC_{i,j,y}</math> by equipment working hours multiplied with the average consumption of the diesel generator and the cross of the yearly consumption by fuel invoices can be verified objectively. The monitoring of this parameter is no requirement of the methodology.</p> <p>The monitoring of the parameter <math>Cap_{Pj}</math> is based on the technical description of the supplier of the equipment and will be done yearly by site visits for any equipment changes. This approach can be verified. The monitoring of this parameter is no requirement of the methodology.</p> <p>The monitoring of the parameter <math>AP_j</math> by a calculation from topographical surveys of the maximum surface area of the reservoir can be verified by checking the topographical survey and comparing the information with the observations from the site visit. The monitoring of this parameter is no requirement of the methodology.</p>	<p>ok</p>
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<p>J.8.4. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?</p>	<p>PDD Section B.6.2-B.7.1</p>	<p>DR</p>	<p>Parameter <math>EG_y</math>          The information about metering devices are detailed enough. The PP mentions the brand and the accuracy class of the meters.</p> <p>Parameter <math>FC_{i,j,y}</math> ,          The information about the working hours of the equipment (this measurement device is part of the generator) and the fuel invoices is detailed enough. The accuracy is reduced by the fact the average fuel consumption has to be used. But by the cross check with the fuel invoices the accuracy level can be verified. The parameter is not required to monitor according to the methodology.</p> <p>Parameter <math>Cap_{P,J}</math>          The information is generally based on the information from technical data sheet of the supplier. This approach is detailed enough. The parameter is not required to monitor according to the methodology.</p> <p>Parameter <math>AP_j</math>          The topographical survey is based on topographical maps. This information is detailed enough to assess that the monitoring approach is appropriate. The parameter is not required to monitor according to the methodology.</p>	<p>Ok</p>
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<p>J.8.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?</p>	<p>PDD Section B.6.2-B.7.1</p>	<p>DR</p>	<p>Parameter <math>EG_y</math>          The correctness of the monthly records can be verified by the cross-check with the readings of the back-up meter and with the data of the invoices. These means are sufficient to verify the data quality.</p> <p>Parameter <math>FC_{i,j,y}</math> ,          The data quality for the fuel consumption can be verified by the cross check with the fuel invoices over the year. Since the parameter is not required by the methodology this data quality level is assessed as sufficient.</p> <p>Parameter <math>Cap_{PJ}</math>          It can be assumed that the supplier information for the equipment is correct. Since the parameter is not required by the methodology this data quality level is sufficient.</p> <p>Parameter <math>AP_j</math>          The accuracy of the topographical survey can be evaluated by the site visit. Since the parameter is not required by the methodology and according to the results of the site visit no additional reservoir generation is expected this data quality level is sufficient.</p>	<p>Ok</p>
<p>J.8.6. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?</p>	<p>PDD Section B.5-B.7.2</p>	<p>DR</p>	<p>Parameter <math>EG_y</math>          The metering devices have an accuracy class of 0.5S. The two meters are connected in parallel so it can be detected if the readings show differences. This system of a permanent internal calibration makes it reasonable that the general calibration interval for the meters is 10 years. This is a deviation from point 17.c in the "General Guidelines to SSC CDM methodologies" but can be accepted due to the cross check of the two meters and due to the fact that the meters are possessed by TEIAS. The high quality of the data is ensured.</p> <p>The quality levels of the other monitored parameters are described in J.8.5. Due to the fact that these parameters are not required by the methodology the accuracy levels are assessed as sufficient.</p>	<p>Ok</p>
<p>J.8.7. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.</p>	<p>PDD Section B.6.2-B.7.1</p>	<p>DR</p>	<p>The formula 6 on page 24 of the PDD is in line with the "Tool to calculate project or leakage CO2 emissions from fossil fuel consumption" ver. 02. Although as pointed out above the monitoring of fossil fuel consumption by the back-up diesel generator is only addressed for geothermal power plants in AMS I.D ver. 14.</p> <p>The formula for the calculation of the emission reduction is in with formula (10) of the AMS I.D ver.14 with the correct assumption that leakage emissions are not relevant for this kind of project.</p>	<p>Ok</p>

<b>J.9. Quality Control (QC) and Quality Assurance (QA) Procedures</b>				
J.9.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	VVM Para. 121 Refer to all data within the PDD Inc. B.6.2-B.7.1	DR	Special quality control procedures are defined for the measurement data for net electricity generation and for the fuel consumption. Both data can be cross checked by invoices and the data from the meter is backed up by a spare meter. These quality control procedures are assessed as sufficient.	Ok
J.9.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	Refer to all data within the PDD Inc. B.4/B.7.2/Annex 4	DR	The uncertainty level of the data collection by the electricity meters is defined by their accuracy class. The accuracy class is 0.5S. This is in line with the technical specifications of the meters /82/ and the first calibration protocol from TEIAS /83/	Ok
J.9.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	VVM Para 121	DR	Yes, please see discussions above. .	Ok
J.9.4. Is it ensured that data will be bound to national or internal reference standards?	VVM Para. 86d	DR	Yes, the calibration is done according national regulation /84/ by TEIAS which is the state-owned network operator company.	Ok
J.9.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	VVM Para. 19	DR	Yes. The data collection for the net electricity generation is the basis for the accounting between the PA and TEIAS. Therefore several control mechanism are installed that these figures are correct.	Ok
<b>J.10. Operational and Management Structure</b>				
J.10.1. Is the authority and responsibility of project management clearly described?	PDD Section B.8/Annex 1	DR	The responsibility of the project management is clearly described in the figure 8 of PDD /02k/ and the additional text passage. The plant manager has the responsibility for the compliance with the VER monitoring plan and the PP Global Tan Energy has the responsibility for the emission reduction calculations and the preparation of the monitoring plan. The accounting manager is responsible for keeping data about power sales, invoicing.	Ok
J.10.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD Section B.8/Annex 1	DR	Yes, please see above.	Ok

J.10.3. Are procedures identified for training of monitoring personnel?	PDD Section B.8/Annex 1	DR	The monitoring of the data is part of the general business processes of the company and therefore the training is included in the general qualification of the staff.	Ok
<b>J.11. Ex-ante Data and Parameters Used</b>				
J.11.1. Are the data provided in compliance with the methodology?	VVM Para. 91/67c PDD Section B.6.3B.6.4	DR	The ex-ante parameters are defined in the "Tool to calculate the emission factor for an electricity system" ver. 1.1. The parameters $EF_{CO2i,y}$ , $EG_{y,Total}$ , $FC_{i,y}$ and $NCV_{i,y}$ are listed in monitoring tables. The data sources were checked and found valid and reliable. All necessary parameters are correctly displayed.	Ok
J.11.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	VVM Para. 91a/b PDD Section B.6.3/B.6.4	DR	The data sources are correct. $EF_{CO2i,y}$ - The correct IPCC default values at lower limit of 95% confidence interval were used. $EG_{y,Total}$ - Based on publicly available TEIAS statistic /40/ $FC_{i,y}$ - Based on publicly available TEIAS statistic /42/43/ $NCV_{i,y}$ - Based on publicly available TEIAS statistic /44/45/	Ok
J.11.3. Is the vintage of the baseline data correct?	PDD Section B.6.3/B.6.4	DR	The data vintage is correct selected with the years 2007, 2006 and 2005. The data upload to the GS registry was done in August 2009. Usually the update for the recent year on the TEIAS website is done in the three last months of the year.	Ok
J.11.4. Is all the data appropriate and correctly applied to the CDM project activity?	VVM Para. 91c PDD Section B.6.3/B.6.4	DR	The output is a conservative estimate of the emission reductions	Ok
J.11.5. Are data and parameters that are not being monitored and remained fixed throughout the crediting period appropriately assessed, correct, and will they result in conservative estimates?	VVM Para. 90 PDD Section B.6.3/B.6.4	DR	The calculation is based on an ex-ante calculation. The used parameters for this calculation remains fix. See list in J11.2.	Ok

<p>J.11.6. Is sampling approach used for any parameters?</p>	<p>EB 50 Annex 30 Para. 30</p>	<p>DR</p>	<p>The identification of the cohort of power units for the calculation of the build margin emission factor is done according the requirements of the tool.          The PP choose option (b) with the correct explanation that this option will include the larger generation capacity.          The PP refers correctly to official TEIAS sources /39/40/41/42/43/32/.          The PP included all power plants that comprise 20% of the system generation in year 2007.          After the required reduction of the plants that are benefiting from VER revenue the PP correctly calculates a capacity margin of 40,519,3 GWh.</p>	<p>Ok</p>
<p>J.11.7. Where applicable, the plant load factor shall be defined ex-ante in the CDM-PDD according to one of the following options:  <b>(a)</b> The plant load factor provided to banks and/or equity financiers while applying the project activity for project financing, or to the government while applying the project activity for implementation approval;  <b>(b)</b> The plant load factor determined by a third party contracted by the project participants (e.g. an engineering company)</p>	<p>EB 48 Annex 11</p>	<p>DR</p>	<p>The plant load factor is defined by the estimated yearly electricity generation given in the generation licence. The value of generation licence /68/ of 45.150 GWh/year is correctly used in the PDD and in the calculation of the emission reductions. .</p>	<p>Ok</p>

## K. Environmental impact assessment (*check requirements for and if applicable results from EIA*)

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
K.1. Does the project comply with environmental legislation in the host country?	VVM Para. 131 PDD section D	DR	The project complies with the environmental legislation in the host country. This can be confirmed by granted licences as the generation licence /68/, the construction permission /66/, the approval of commissioning /18/, forest permission /56/, system connection agreement /57/ Also from the feasibility report /47/, the pre EIA study /46/ and the EIA approval letter /14/.	Ok
K.2. Has an analysis of the environmental impacts of the project activity been sufficiently described?	VVM Para. 131 PDD section D	DR	The PP presented the findings of the pre-EIA study in section D of the PDD /01k/. The statement that the pre-EIA does not point out a negative environmental impact can be confirmed. The pre-EIA study refers mainly to the environmental impacts during the construction like noise and dust emission and waste generation. All these factors will be handled according the national legislation and were therefore assessed as not negative. This assessment was confirmed by the Ministry of Environment and Forestry by the issuance of the EIA approval letter for the project activity.	Ok
K.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	VVM Para. 131 PDD section D	DR	The Ministry of Environment and Forestry issued the EIA approval letter for the project activity on the basis of the pre-EIA and confirms that no significant environmental effects will be induced by the project activity.	Ok
K.4. Will the project create any adverse environmental effects?	VVM Para. 131 PDD section D	DR	Further environmental effects like effects on biodiversity by the reduction of the river flow between weir and water outtake at the power house and the effects of sediment accumulation beneath the weir are discussed in the WCD checklist from table C-2 of annex C of the GS toolkit ver.2.1. These potential environmental effects are covered with mitigation measures which sufficiently ensure that no adverse negative effects will remain.	Ok

K.5. Are trans-boundary environmental impacts considered in the analysis?	VVM Para. 131 PDD section D	DR	Since the effects on biodiversity are referring to the river course between weir and power house which is according to the definition of the project boundaries not part of the project trans-boundary environmental impacts have be considered.	Ok
K.6. Have identified environmental impacts been addressed in the project design?	VVM Para. 131 PDD section D	DR	All relevant possible environmental impacts were discussed in the sustainable development matrix in the GS passport and covered with mitigation measures and monitoring plans. Compare sections G and H of this checklist.	Ok

**References**

Reference ID	Title / Description	Comments
	<b>See section 7 document References (page 42)</b>	