
VALIDATION REPORT

Red Hills Wind Project, L.L.C.

Red Hills 123 MW Wind Power Project

SGS Climate Change Programme

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Project Title:			
Red Hills 123 MW Wind Power Project			
Organisation:		Client:	
SGS United Kingdom Limited		Red Hills Wind Project, L.L.C.	
Summary:			
Red Hills Wind Project, L.L.C. has commissioned SGS to perform the validation of the project: Red Hills 123 MW Wind Power Project. The "Red Hills 123 MW Wind Power Project" consists in the installation of 82 Acciona 1.5 MW turbines to a capacity of 123 MW of wind power on approximately 5,000 acres of agricultural and grazing land. The facility will deliver power into the Southwest Power Pool (SPP) Regional Transmission Organization (RTO) with interconnection at the Western Farmers Electric Cooperative. The project's intent is to generate electricity from renewable sources and therefore to displace electricity that otherwise would have been procured from the grid in the absence of the Red Hills wind farm. Methodology used: CDM approved methodology: ACM0002 Grid-connected electricity generation from renewable sources version 9. Valid from 27 Feb 09 to 10 Jun 2009 Requests for registration can be submitted until 10 Feb 2010 23:59 GMT, as per CDM website. This methodology is accepted by the VCS. The scope of the validation is defined as an independent and objective review of the Voluntary Carbon Standard (VCS) Project Description (PD) document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against VCS2007 requirements and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of VCUs. The report is based on the findings of document reviews, the stakeholder consultation process and responses from the project participants to the findings raised in this report. The report and the annexed validation describes a total of seven (9) findings which include: • 2 Corrective Action Requests; • 7 Clarification Requests; and These findings were closed out satisfactorily.			
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Abbreviations

CDM	Clean Development Mechanism
DOE	US Department of Energy
EB	Executive Board
PD	Project Description
SPP	Southwest Power Pool
VCS	Voluntary Carbon Standard
VCUs	Voluntary Carbon Units

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1. Validation Conclusion

SGS United Kingdom Limited has been contracted by Red Hills Wind Project, L.L.C. to perform a validation of the project: Red Hills 123 MW Wind Power Project in the State of Oklahoma, USA

The Validation was performed in accordance with the VCS2007 requirements and host country criteria, as well as, criteria given to provide for consistent project operations, monitoring and reporting.

SGS reviewed of the project description documentation, using a risk based approach and conducted follow-up interviews.

Two (2) CARs and Seven (7) CLs were raised. The response to CARs and CLs was satisfactory and these were closed.

In our opinion, the project meets all relevant VCS2007 requirements and all relevant host country criteria. The project correctly applies methodology CDM approved methodology: ACM0002 Grid-connected electricity generation from renewable sources version 9. Valid from 27 Feb 09 to 10 Jun 09 Requests for registration can be submitted until 10 Feb 10 23:59 GMT, as per CDM website. This methodology is accepted by the VCS.

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 2,938,386 tCO₂e over a 10 year crediting period, averaging **293,839 tCO₂e** 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 to the VCS Association for registration within the VCS registry system

Signed on Behalf of the Validation Body by Authorized Signatory



Signature:

Name: Siddharth Yadav

Date: 31/12/2009

2. Introduction

2.1 Objective

Red Hills Wind Project, L.L.C. has commissioned SGS to perform the validation of the project: Red Hills 123 MW Wind Power Project with regard to the relevant requirements for VCS2007 project activities. The purpose of a validation is to have an independent third party assessment of the project design. In particular, project's baseline, monitoring plan (MP), compliance with relevant VCS2007, and host country 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 of the quality of the project and its intended generation of Voluntary Carbon Units (VCUs). VCS2007 criteria refer to the VCS criteria and the VCS2007 rules and modalities and related decisions by the VCS Board.

2.2 Scope and Criteria

The scope of the validation is defined as an independent and objective review of the project description documents, project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against VCS2007 requirements and rules and also associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of VCUs.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

2.3 VCS Project Description

The Red Hills wind project is located in Southern Custer and Roger Mills counties, Oklahoma, on approximately 5,000 acres of agricultural and grazing land. The project has a capacity of 123 megawatts (MW), consisting of 82 Acciona 1.5 MW turbines. The project's intent is to generate electricity from renewable sources and therefore to displace electricity that otherwise would have been procured from the grid in the absence of the Red Hills wind farm.

The project category falls under CDM Scope 1, Energy industries (renewable/non-renewable sources). This is appropriate as the VCS accept the Sectoral scopes defined by the CDM program. As per the VCS; a micro project should result in less than 5,000 tonnes of CO₂ equivalent GHG emissions reductions or removals per year whereas mega projects result in more than 1,000,000 tonnes of CO₂ equivalent GHG emissions reductions or removals per year. Neither of these situations corresponds to the case of Red Hills Wind farm project. Therefore, the project is neither a micro project nor a mega project. Under the VCS description Red Hills simply qualifies as a 'project'.

2.4 Level of assurance

The level of assurance of the validation report is reasonable assurance engagements.

3. Methodology

3.1 Review of VCS PD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project documents and other supportive documents. The assessment is performed by trained assessors using validation protocols. The site visit took place on 17th-18th November, 2008.

3.2 Follow up interviews

Date	Name	Position	Short Description of Subject Discussed
18 th Nov. 2008	Phil Stiles	Director of O&M	Operation of the wind farm
18 th Nov. 2008	Travis Narum	Project Developer	Environmental aspects
18 th Nov. 2008	Jennifer Koop	Project Proponent for VCS	Baseline identification, common practice analysis, estimated emission reductions
18 th Nov. 2008	Jason Donajkowski	Construction Manager	Specifications of the wind turbines
18 th Nov. 2008	Charles Wallace	Site Manager	Operations of the plant
18 th Nov. 2008	Nick Papageorge	O&M	Operations of the plant
18 th Nov. 2008	Nuria Iturriagagoitia Ripoll	Acciona CDM/VCS expert	Stakeholders consultation
18 th Nov. 2008	Magdalena Garcia Mora	Acciona CDM/VCS expert	Stakeholders consultation
18 th Nov. 2008	Josh Cynamon	Finance	Financial aspects of the project and additionality

3.3 Resolution of any material discrepancy

No material discrepancies were observed.

3.4 Use of the Validation Protocol

The validation protocol used for the assessment is partly based on the templates of the IETA / World Bank Validation and Verification Manual and partly on the experience of SGS with the validation of CDM projects. 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.

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

Checklist Question	Ref.	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.	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 (CLs) is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex A.2 to this report

3.5 Findings

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

In general, where insufficient or inaccurate information is available and clarification or new information is required the Assessor shall raise a **Clarification Request (CL)** specifying what additional information is required.

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

- I. mistakes have been made with a direct influence on project results;
- II. validation protocol requirements have not been met; or
- III. there is a risk that the project would not be accepted as a VCS2007 project or that emission reductions will not be verified.

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.

Observations may be raised which are for the benefit of future projects and future verification or validation actors. These have no impact upon the completion of the validation or verification activity.

CARs and CLs are raised in the draft validation protocol and detailed in a separate form (Annex A.3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and Observations.

3.6 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.

4. Validation Findings

4.1 Project Design

Technology used:

The “Red Hills 123 MW Wind Power Project” consists in the installation of 82 Acciona 1.5 MW turbines to a capacity of 123 MW of wind power on approximately 5,000 acres of agricultural and grazing land. The facility will deliver power into the Southwest Power Pool (SPP) Regional Transmission Organization (RTO) with interconnection at the Western Farmers Electric Cooperative.

For the sake of transparency, a clarification request (CL05) was raised in order to ask project participants to provide a schedule showing relevant milestones (e.g. decision to undertake the project, ordering and purchasing, request and issuance of permits, decision to pursue for VCS credits, commissioning of equipments, etc.) supported by evidence (i.e. contracts, quotes, purchasing orders, commissioning certificates, etc.). Project developers provided the timeline schedule as of 30 November 2007, which contains the labor chronogram. Furthermore, project developers provided the document Red Hills Project Timeline (See Ref.14&15), which specifies the dates for major actions taken by the project developer. Since the information was found complete and consistent, CL05 was closed out.

Proof of Title:

Project proponents provided the EIA form 860 as a ‘proof of title’, which was presented to the U.S. Department of Energy Information Agency. This is acceptable as this report is mandatory for all grid connected electricity generator, as per the Federal Energy Administration Act of 1974 (Public Law 93-275). In addition, CL01 was raised in order to ask project developers to supply documentation that Red Hills LLC is a wholly owned subsidiary of Acciona. Project developers submitted a Purchase & Sale Agreement, documenting the ownership of Red Hills Wind Project, L.L.C. The document was reviewed during the site visit and it was verified that Red Hills LLC is a wholly owned subsidiary of Acciona, which also constitute an appropriate proof of ownership of the project activity.

Double counting and other emission trading programme:

The project has neither applied to any other GHG program nor been rejected by a different scheme. There is no risk of double counting. The only program to which a wind farm like Red Hills could apply in the US could be the Renewable Source Portfolio. A renewable portfolio standard (RPS) is a regulation that requires the increased production of energy from renewable energy sources, such as wind, solar, biomass, and geothermal.

The RPS mechanism generally places an obligation on electricity supply companies to produce a specified fraction of their electricity from renewable energy sources.

Nevertheless, Oklahoma, the state where Red Hills is located is not a member of the RPS.

Based on this assessment, no risk for double counting was identified.

4.2 Choice of the Crediting Period

The crediting period for Red Hills will last for 10 years thereafter. The start of operations is marked by the start of commercial operations which is October 26, 2008. The crediting period will not exceed the lifespan of the wind farm, which is expected to be 20 years after the operational date.

4.3 Baseline Selection and Additionality

The baseline and additionality of the project was demonstrated by applying the following tools from CDM Executive board;

- 'Tool for the demonstration and assessment of additionality' version 5.2.
- 'Combined tool to identify the baseline scenario and demonstrate additionality' version 02.2

The baseline selection and additionality of the project activity has been assessed as discussed here forth in details.

Step 1: Identification of the alternatives to the project activity consistent with current laws and regulations

Sub-step 1a: Define alternatives to the project activity

The following alternatives were considered in the development of the baseline scenario:

Alternative 1: Implementation of the project activity not undertaken as a VCS project activity;

Project proponents argue that this alternative would not be feasible because of the reasons presented in the demonstration of the additionality. Though, the '2006 state of the market in the Southwest Power Pool' (Ref.06) reveals that other 61 additional wind farms are in the process of requesting a generation interconnection agreement. However, being Red Hills one of the early movers into wind power generation within the SPP, along with other 9 wind farms (See Ref.10), we can expect that they are to face some penetration barriers as explained in the additionality demonstration, which would make this alternative one of the least viable baseline scenarios.

Alternative 2: Implementation of a similar scale renewable energy project such as solar photovoltaic or concentrated solar power;

This is somewhat similar to Alternative 1, meaning that renewable energy projects would face similar barriers as compared to wind power plants, thus is not a viable baseline scenario either.

Alternative 3: Continuation of the current situation with no project activity.

This option seems as the most viable for the time being.

Note that a clarification request (CL03) was raised in order to ask project participants to review the arguments presented in the identification of the baseline scenario:

- Project proponents ruled out Alternative 1 (Implementation of the project without the carbon revenues) as the baseline by saying: *"There are currently no regulatory requirements that compel the implementation of either Alternative 1 or Alternative 2"*. To this extent, it should be observed the wind power is a widely-applicable proven-technology and therefore does not require to be enforced by any Legal Mandate. Hence, the project activity not undertaken as a VCS is a credible alternative consistent with current laws and regulations.
- Similarly, the paragraph dedicated to common practice bases its conclusion on the composition of the Southwest Power Pool. Nevertheless, by definition a common practice assessment shall rather analyze the extent to which the proposed project type (e.g. technology or practice) has already diffused in the relevant sector (i.e. electricity sector) and region (i.e. at least the country in question). To this extent, the mere selection of the grid to which Red Hills is connected (SPP) is inappropriate as it significantly limits the results of a common practice analysis.

CL03 was closed after discussing and clarifying the nature and relevance of the Southwest Power Pool. Project proponents claim the baseline scenario would correspond to continuation of the current practice in the absence of the Red Hills wind farm, which is to say: power demand will be supplied by the grid. To this extent, there are two important aspects that have to be considered when determining the baseline scenario. The first element relates to the Renewable Portfolio Standard, which is a mechanism that places an obligation on electricity supply companies to produce a specified fraction of their electricity from renewable energy sources. Complementarily, certified renewable energy generators earn certificates for every unit of electricity they produce and can sell these along with their electricity to supply companies. Unfortunately, the

State of Oklahoma does not have RPS policies in place and therefore wind power plants are not eligible for that type of incentive.

The second element has to do with the delimitations applied for 'common practice analysis' (i.e. also related to the demonstration of additionality). Project proponents provided additional information in order to clarify that the 'region' selected for the purpose of the analysis was the Southwest Power Pool which is a Regional Transmission Organization (See Ref.07) lies within the Eastern Interconnection as defined by the North American Electric Reliability Corporation (See Ref.08). This approach was found adequate as per the regulations and restrictions of interconnected power systems in the US and therefore the issue was closed.

The conclusion on the baseline scenario assumes that other wind power plants that are expected to come into the Southwest Power Pool will face barriers during the implementation phase, similar to those experienced by Red Hills. On the basis of this assumption, project proponents ruled out the "Implementation of the project activity not undertaken as a VCS project activity" as likely baseline scenario to occur. While reviewing the barriers described in the demonstration of the additionality, this assumption was found to be reasonable.

Sub step 1b: Consistency with mandatory laws and regulations

It was verified that the selected alternative to the project activity are in compliance with applicable legal and regulatory requirements. Project participants presented an exhaustive list of the legal requirements that Red Hills wind farm was subject to for the purpose of its implementation. This was clearly explained in Section 1.10 Compliance with relevant local laws and regulations related to the project (See: Table 5: Red Hills Permitting Matrix).

Step 2: Investment analysis

Sub Step 2a: Determine appropriate analysis method

The benchmark analysis approach, to demonstrate the additionality, was selected out of the given options form the additionality tool. PP has chosen the 9% benchmark as appropriate to the project activity which was found inline to the guidance of additionality tool and accepted by DOE. The IRR for the project activity (7%) was validated below the selected benchmark as discussed here after.

CL04 was raised to justify the appropriateness of the selected benchmark to the project activity. Project developers were asked to provide the estimation, rationale and parameters used to determine the benchmark (8.0-10.0%). They were also asked to justify the use of the Ventyx study (Midwest Regional Outlook) as the basis for the WACC of a project being implemented in the Eastern Interconnection (Ref.12); given that there are three interconnections in the US: Eastern, Western, and ERCOT and therefore it could be reasonably expected that each of them will have different characteristics, market conditions and benchmarks

The issue was solved. Project developers clarified that the Ventyx study is issued for different geographical regions, but the data on project returns is standard to all editions. Further, the Midwest edition is the version that includes the Southwest Power Pool. Ventyx has calculated the range of returns typical of what project developers require, no matter what geography they are in. The returns calculations presented in Ref.13 - WACC Ventyx.xls come from the aforementioned study (Midwest Regional Outlook, Ref.12) which includes debt levels of 60%, 50%, and 40% that correspond to returns of 9%. CL04 on this issue was closed.

The main argument presented for the barriers analysis that "Red Hills would face barriers resulting from investment return constraints and institutional barriers that the potential VCU revenue stream will help to overcome". The PD further explains that "A wind project has three main options in selling the renewable energy that it generates:

1. A Power Purchase Agreement (PPA) with a utility or other load supplier:
 - Project participants calculated the internal rate of return on the basis of the most recent PPA prices, \$29/MWh as per the PPA structure for a similar project in Oklahoma called Sleeping Bear (see Ref.11, sheet: '01789_200809_contracts'). With these prices the IRR could not reach the chosen benchmark that ranges from 9-10%. This demonstrates that Red Hills returns are not enough to justify its development and this barrier could be alleviated by the VCUs benefits

2. Selling into the real-time market, combined with a financial or physical hedge (such as a swap, floor, or collar) to reduce some price risk.
 - This option is very unlikely to be selected as it would not remediate Red Hills constraints to generate the levels of revenues required by its investors, being the main reason the continuous price fluctuation within SPP and the low level of participants as shown in Table 10
3. Selling into the real-time market and taking the market price.
 - In the same manner that the hybrid approach, presented above (market sales combined with financial hedge) would not work because of its instability in prices; similarly sole market sales would impose a high risk onto Red Hills. The main reason is that prices ranged from negative (\$58) to \$537 during the first year of real time spot market operation as shown in Figure 4.

A clarification request (CL04) was raised in order to address the following issues related to the demonstration of the additionality:

It was noted that the demonstration of the additionality, as presented in the PD, did not include all of the steps prescribed by the CDM Tool for the demonstration and assessment of additionality as required by the applied methodology ACM002. Thus, project developers were asked to review and amend the PD as necessary.

This issue was solved after the PD was revised and the comment was removed.

project developers evaluated three possible options to sell the electricity that they would be generating and explained a series of obstacles Red Hills is expected to face. Being Acciona Energia a company dedicated to the electricity generation and commercialization business, project developers were asked to explain what makes Red Hills different from Blue Canyon, Velva and Tatanka (See Ref.10) in regard to the ways these barriers are to be overcome?

This issue was solved. Project developers explained that power prices and turbine pricing (as verified in Ref.19 - SPP Pricing and Ref.21 - Turbine Prices respectively) have dramatically changed over the past few years, and this has represented an obstacle to Red Hills. In addition to that, while reviewing the location of the other projects it was confirmed that they operate in States they are member of the RPS (Blue Canyon, IL; Velva, ND; Tataka, ND; EcoGrove, IL), which adds another constraint to Red Hills.

The PD stated the Sleeping Bear-PSO PPA weighted average price is \$29/MWh and further said that electricity prices in the SPP market increased by an average of 20% and 40% annually from 2007 to 2008. The following evidence was requested:

Source document that justifies the values presented in Table 8: Sleeping Bear - PSO PPA;

This issue was solved. Project developers submitted the file: PPA structure_Sleeping Bear.xls (Ref11). The prices included in this file were reviewed and found in accordance to the information presented in the PD

Source document of that 20%-40% increase;

This issue was solved. Project developers provided the SPP pricing ref.19 showing an increase of 34%, which justifies the suggested escalation rate of 20-40%. This analysis was completed shortly before the original PD was submitted showing a price increase of 34% from 2007 to 2008. Therefore an assumption of 20-40% was made. Pricing has since declined so if the analysis were updated, a lower escalation would be assumed, making the case even stronger.

Taking into account the statement made on the PD: "this escalation rate was assumed to continue in the future"; project developers were asked to explain why the PD said below that "The PPA price was assumed to escalate at 2% per year starting one year after the PPA execution.

This issue was solved. Project developers explained that the escalation rate for the Red Hills PPA was assumed to be 2%, which is a typical rate of escalation on a PPA to account for the fact that a portion of the costs are subject to inflation and other variable factors. This is not the same as the 20-40% because that represents the historical increase in market prices.

In order to be able to validate the financial additionality the audit team needs to be able to recreate the IRR calculation. Please provide the calculation of Red Hills IRR (4.0-6.5%) as presented in Table 9. The issue

was solved. Project developers provided a revised version of RH Summary Financials_PPA Scenarios.xls and no inconsistencies or issues were found.

Further, Project developers were asked to provide the cash flow and input value used for to calculate the investment and return and to clarify why the spreadsheet had no values for interest payments (row17) despite of the fact that the project file: Red Hills Wind Farm - Project Schedule.pdf indicates in the Financing section 7 that Red Hills incurred in some sort of debt with lenders. They also had to clarify what type debt-equity proportion was structured for the implementation of Red Hills (60%/40%; 40%/60% or 0%/100%) as expressed in the WACC file: Ventyx Capital Structure and Returns (Ref.13).

Project developers clarified that Red Hills will not take on debt, but will be financed through a combination of an equity investment from a tax investor to receive both project cash flows and Production Tax Credits, and equity from Acciona Wind Energy USA. This represents no conflicts with regard to the demonstration of the additionality as prescribed by the additionality tool version 05.2.

After project developers provided evidence clarifying the different aspects of additionality CL04 was closed out.

In addition to that, the following issues required further discussions with the project developer since they were not clear in the Red Hills financial scenarios:

- a. It was noticed in the projection of power generation that the values change for some years, despite of the fact that the installed capacity would remain the same.

This minor concern was clarified by project proponents who explained that the figures change due to leap years with one extra day of production

- b. Tax Rate: in the WACC, 39.6% was used as corporate tax rate. However, in the financial calculation sheet, 35% was used as the tax rate.

Project developers clarified that there are different tax rates because they corresponded to two different sources. The WACC comes from Ventyx which was used in the PD only to show the returns expected on a given project in the industry used with a benchmark return of 9-10%. This example uses a 39.55% tax rate, which is a blended rate to capture both federal and state income taxes across the US. The 35% tax rate is specific to the Red Hills project and includes federal taxes; the project is not required to pay state taxes.

- c. Explanations were needed to clarify why depreciation is lower in 1st year than in 2nd year.

Project developers explained that depreciation is lower in the first year due to the MACRS¹ depreciation schedules.

- d. Calculation behind all values (e.g. production tax credit) should be provided and all cells should be linked to trace back the values and formulas

Calculations for the values presented in the spreadsheet (including production tax credit) were included in the latest version of the spreadsheet.

- e. Further explanation and/or evidences are required to support the calculated annual escalations for the values (e.g. Planned O&M, Unplanned O&M, Land Lease, insurance, Management Fee and Utility power) in sheets 'Expenses &PT and Expenses PT\$35'.

Project proponents submitted a comprehensive summary of terms and assumptions (Ref. 27). The explanations provided were reviewed and found in compliance with the rest of the evidence.

As discussed above in details, the used assumption and input values were validated and the calculated IRR for the project activity (7%) was found appropriate and acceptable.

Step 2d: Sensitivity analysis

Following the guidance provided in the additionality tool version 5.2, PP has also carried out the sensitivity analysis on the increase in energy production by 10% however the IRR doesn't cross the benchmark and project still stands additional.

¹ Modified Accelerated Cost Recovery System

Step 3: Barrier Analysis

PP has mentioned different barriers faced by the project activity in the PD but DOE has not found them substantial to prevent the implementation of the project activity. However, this doesn't affect the additionality of the project because following the additionality tool, project can pass the step 3 (barrier analysis) which is optional and can go to the next step. As discussed above in the report the project passes the step 2 investment analysis and then move to step 4 (barrier analysis- as discussed in later section) and passes both the steps therefore found additional.

Step 4: Common practice analysis

Project proponents submitted a study titled "2006 State of the Market Report Southwest Power Pool (SPP), Inc." (Ref.06) was reviewed and it indicates that this grid is mainly composed by natural gas plants (51%); followed by coal fuelled plants (36%); leaving wind and nuclear power with lowest participation the overall composition of the system (1% each). This demonstrates that wind power is not the dominant source of energy supply in the SSP.

The aforementioned report contains also a section called: "Generation Capacity by In-Service Year"; where it was verified that *"there has been an emergence of wind-powered generation in recent years within the SPP"* (p.16). Out of this statement, it can be inferred that wind power is starting its development in the SSP and therefore is subject to various kind of hurdles as many other industries and technologies during early stages as expressed in the presentation prepared by the SPP (Ref.20) that highlights some of the challenges face by wind power development (see slide: Challenges with Wind Development). Further, the report states that as of June, 2006, 61% of the capacity in the Queue was for wind projects, however they are still going through different stages of the process to request generation interconnection, such as the facility study, feasibility study and impact study where they can be expected to experience some of the barriers faced by Red Hills as explained above.

CL08 was raised in order to highlight the fact that the analysis presented in the PD based its conclusion on the composition of the Southwest Power Pool. Nevertheless, by definition a common practice assessment shall rather analyze the extent to which the proposed project type (e.g. technology or practice) has already diffused in the relevant sector (i.e. electricity sector) and region (i.e. at least the country in question). This said, the mere selection of the grid to which Red Hills is connected (SPP) is inappropriate as it significantly limits the results of a common practice analysis. The fact that "Wind power represents only 1% of total generation capacity" cannot be presented as the sole argument to claim that "wind power is clearly not common practice in the SPP". This percentage needs to be correlated against the potential for wind power generation in the region. In other words, one can argue back that given the conditions of the region; 1 or 2% is about the capacity for wind generation for that area and it is not physically possible to go above or beyond that percentage. Evidence needed to be provided to demonstrate that wind power generation could account for a much higher percentage, yet it has not been reached due to unfavourable market conditions.

The discussion related to the common practice (CL08) was solved after project developers submitted a document that states (ref.20) that the wind power potential for the area is greater than what it is installed at the moment. In fact, the potential for wind generation in the SPP region is estimated to be 90,000 MW, which would far exceed the peak load of 50,000 MW. This is complemented by a report from the DOE that states that Oklahoma has the potential for more than 10,000 MW of wind power. In comparison, the state had only 689 MW of wind power installed at the end of 2007, which is a signal the lack of incentive for renewable energy projects in the State. This was also confirmed while looking at the queue for interconnection (Ref.06 - SPP state of the market.pdf) where is very it can be noticed that the active requests for Oklahoma wind projects in the queue as of November 2008 (to be completed by 2015) total 14,500 MW, but almost 67% of them are still in a very initial stage, which means that they have not been able to complete their feasibility studies. CL08 was closed.

Finally, project developers enhanced the common practice analysis presented in the PD by explaining in more details the main differences between existing projects in Oklahoma and Red Hills. Essentially, the other projects that operate in the State of Oklahoma were either contracted under a Build-Operate-Transfer (BOT) agreement instead of a PPA or built by companies with a more advantageous tax and financing position than Acciona. These new arguments have been updated in the latest version of the PD. In summary it was validated that the project is not a common practice in the region.

As discussed above the project activity was found the additional following the CDM EB 'Tool for the demonstration and assessment of additionality' version 5.2.

4.4 Application of Baseline Methodology and Monitoring Plan

Project developers initially made use of ACM0002 version 7, which was valid from 14 Dec 2007 to 04 Dec 2008. Project proponents were encouraged, via CAR10, to update the PD in order to reflect the most recent version of the methodology as approved by the CDM EB. CAR09 was closed out after verifying that the version of the methodology was updated in the PD and it now makes reference to ACM0002 v.9. More important, it was verified that subsequent versions, approved after version 7, do not entail any changes to Red Hills. In fact, the most significant change was introduced in version 9, which requires monitoring of project emissions, but only to Solar Power plants.

As far as the monitoring plan concerns, the monitoring plan follows VCS rules and is in-line with features of this project.

A Clarification Request (CL06) was raised in order to ask project developers to clarify the lack of full knowledge of monitoring tasks and operation and maintenance activities by the personnel on-site. Some of these activities related to field calibration of meters and meter agent; responsibilities for regular maintenance; management systems; calibration log and so forth. This CL was closed after project developers explained that the personnel on-site were focused on building the project and had not been provided with all of the details on O&M in the future yet. However, the proper training and communication will be provided. This is acceptable and, as previously explained, these issues have to be included in the monitoring plan (which they are) and will be checked during the verification.

All data collected for the purpose of the VCS emission reductions calculations will be handled by Acciona's Supervisory Control and Data Acquisition (SCADA), which is operated by the personnel in the System Operations Center (SOC). Generation data will be archived electronically for the duration of the project and kept for two years after the project ceases operations. This is appropriate.

The monitoring plan includes clear information on the monitoring equipment. The device record will include a basic specification sheet for each metering device used to measure the wind energy output to the grid. Further, there are clear indications for extraordinary events included in the monitoring plan. The project operator will report any unscheduled maintenance or repair activities that cause system downtime and would therefore prevent the production of emission reductions from the power generation source.

4.5 Calculation of GHG Emissions

Baseline Emissions:

The ex-ante estimation of baseline emissions was carried out on the basis of an annual estimate of power generation of 439,400. This annual estimate of power generation comes from the multiplication of the firm capacity (123 MW) by the capacity factor (40.78%) and the hours per year (8,760). The estimated value for generation is later multiplied by the grid emission factor as explained in section B.6, so the result for annual emissions reductions is 293,839 tons CO₂/year. (See Ref.02 Red Hills emission analysis). It was explained by project developers that the capacity factor was derived out of the wind energy resource assessment conducted by Acciona Energia in August of 2007. The study applied a vintage data that goes back to year 2004. Information was collected from three 50 meter meteorological towers and one 82 meter hub height tower that were at the site. The results of this study were later contrasted by the analysis performed by an independent party (Garrad Hassan, experts in wind energy. www.garradhassan.com) and the results were comparable to the studies conducted earlier by Acciona Energia.

Project Emissions:

The project activity does not entail generation of project emissions. As per ACM0002, ver.9: "For most renewable energy project activities, $PE_y = 0$ "

Leakage Emissions

ACM0002 disregards consideration of leakage emissions. Therefore, no leakage emissions will be computed.

Ex-ante parameters used:

The main ex-ante parameter applied in the estimation of emission reductions is the grid electricity emission factor. Project proponents calculated the grid emission factor as per ACM0002 and the data was taken from the Energy Information Agency (EIA) for the years 2005, 2006 and 2007. The result of the calculation was 0.67 metric tons CO₂/MWh for the Red Hills Wind farm project.

The result was compared against other sources and it proved to be conservative. Other sources revealed the following values:

- eGRID2007 Version 1.0, Year 2005 Summary Tables, created September 2008. eGRID sub region SPP South (SPSO): 1,655.25 lb/MWh, which is equivalent to 0.751 metric tons CO₂/MWh and;
- Updated State-level Greenhouse Gas Emission Coefficients for Electricity Generation. Year 2000 (1998-2000): 0.781 metric tons CO₂/MWh for the state of Oklahoma

The data used for the calculation of the grid emission factor was taken from the Energy Information Agency (EIA). This is an official and reliable source of data. The vintage data used for the analysis included the most recent three years, for which data was available, namely 2005, 2006 and 2007 (See Ref.02).

An editorial revision to the PD resulted out of CAR09. A corrective action request was raised in order to highlight the following:

- a. Step 3, which described the calculation of the Operating Margin (OM) emission factor and included (at the end) some information that rather related to the build margin. It was pointed out that Option 1 and Option 2, suggested by the tool, in terms of the vintage of data used are applicable to the build margin emission factor. Project developers were asked clarify why this options were presented under the OM.
- b. They were also encouraged to correct the typographical error on page 30. The PD mentioned 5 Steps (4th repeated), however the tool and the description found in the PD includes 6 steps.

CAR08 was closed out after verifying that the required modifications were included in the latest version of the PD.

4.6 Environmental Impacts

A clarification request (CL02) was raised in order to ask project participants to provide information that can demonstrate compliance with all applicable environmental regulations as it was not available at the time of the site visit. CL02 was closed out after reviewing the documentation sent by the project proponents. The document: RedHillsBringDownLetterFINAL121608.pdf (See Ref.04) was revised, which is a letter issued by HDR Engineering that contains a summary of the permitting and environmental analysis performed for the Red Hills Wind Project, L.L.C. This letter was sent along with the file: RedHillsPermitMatrixFINAL.pdf (See. Ref.05) and both documents show the various permits Red Hills needed for its implementation, specifying the corresponding agency, in terms of the installation of wind turbines; construction of road access; power substation; aerial transmission lines; etc. These two documents provide a comprehensive overview of the project's compliance with applicable environmental regulations, hence CL02 was closed out.

The PD said: Acciona Energy North America voluntarily contracted HDR Engineering, Inc. (HDR) and Western Ecosystems Technology Inc. to complete the environmental site assessment (ESA) and Biological Assessment of the property proposed for the Red Hills Wind Project.

Considering that any project of this magnitude would require an EIA; CL02 was raised in order to ask project proponents to clarify what was meant by voluntarily. Project proponents clarified that An EIA is not needed unless there is a Federal Nexus, which did not apply for this project. Correspondence with the US Fish and Wildlife Service is recommended (and may be needed to finance a project with third party funding), but legally is not required. In addition, a simple assessment from USFWS may have been sufficient without longer term bird and bat studies to get financing (unknown though industry best practice is to do studies). Therefore, all of the environmental studies were voluntary.

Project proponents conduct a comprehensive assessment of environmental impacts that included:

- potential impacts to whooping cranes;
- bat assessment using acoustic monitoring equipment
- wetlands delineation

Project proponents have addressed the identified environmental impacts in the project design as follows:

- turbine Design: Acciona will use monopole, tubular designs that eliminate avian perching sites
- Collector Line Design: Acciona will bury the majority (about 88%) of the collector lines for the project
- Lighting: The Red Hills Wind Project will use the minimum amount of lighting as required by Federal Aviation Administration
- Concerning threats to birds. Western Ecosystems determined that; "The Red Hills project avoids many of the potential impacts to whooping cranes due to its distal proximity to the main migratory flyway."

Other measures to mitigate air and noise impacts.

4.7 Comments by Local Stakeholders

The stakeholders' consultation was organized by Roger Mills County and the meeting took place February 11th and June 16th 2008.

A clarification request (CL07) was raised, so project participants can clarify the following issues:

- a. How relevant stakeholders were identified? What was the criterion for the selection of relevant stakeholders
- b. The PD mentions local officials also participated in that meeting? Which were those?
- c. Please provide copies of the invitations sent

This request for clarification was closed out. Project proponents satisfactorily clarified that Roger Mills County, the department responsible for the stakeholders' consultation, has specific criteria for this type of consultation. The file Roger Mills County Zoning Ordinance 2007 states that *"No building (structure) shall be located closer than ten (10) feet to a side lot line, except when abutting dwelling. Then, it shall have a three hundred (300) feet side yard"*. Section 9-4. *Procedure for Authorizing Conditional Uses Permitted on Review*, further states that the uses shall be reviewed and authorized or rejected under the following procedures: "An application together with a fee of no less than one hundred dollars (\$100.0) shall be filed with the Planning Commission for review. Said application shall show the location and intended use of the site, the names of all the property owners and existing land uses within three hundred (300) feet, and any other materials pertinent to the request which the Planning Commission may require". This indicates that the main stakeholders to be consulted were the adjacent landowners who were invited to participate in the public hearing of the project. Others were reached out via a published affidavit that Roger Mills County published in the local paper inviting anyone to the public meeting (See Ref. Roger Mills Publishers Affidavit.pdf)

5. Document References

Documents (documents provided by the Client that relate directly to the GHG components of the project and background documents used to check project assumptions and confirm the validity of information)

- /1/ Red Hills_VCS PD (all version submitted & final November 2008)
- /2/ RH summary financials_PPA scenarios_ver Aug09.xls
- /3/ - ACM0002 v9.pdf
- /4/ - RedHillsBringDownLetterFINAL121608.pdf
- /5/ - RedHillsPermitMatrixFINAL.pdf
- /6/ - SSP state of the market.pdf
- /7/ - RTO and ISOs.pdf
- /8/ - NERC Interconnections.pdf
- /9/ - Acciona plants in the US.htm
- /10/ - Oklahoma wind projects.xls
- /11/ - PPA structure_Sleeping Bear.xls
- /12/ - WACC Ventyx.PDF
- /13/ - WACC Ventyx.xls
- /14/ - Red Hills project timeline.doc
- /15/ - Red Hills Wind Farm - Project Schedule.pdf
- /16/ - Roger Mills County Permit - Publishing Fee.pdf
- /17/ - Roger Mills County Zoning Ordinance 2007.pdf
- /18/ - Roger Mills Publishers Affidavit.pdf
- /19/ - SPP Pricing
- /20/ - SPP_Wind_Generation
- /21/ - Turbine Prices dated 2007-10-29
- /22/ - Subsidy in power generation.pdf
- /23/ - RH Wind Assessment.doc
- /24/ - SPP slide_VCS.ppt
- /25/ - WFE letter VCS.pdf
- /26/ - Decommissioning Report_final.pdf
- /27/ - Red Hills Summary of Exp Assumptions.pdf

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Description for Red Hills 123 MW Wind Power Project.

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

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
Proof of title	Need of documentation proving that Red Hills LLC is a wholly owned subsidiary of Acciona. Project developers submitted a Purchase & Sale Agreement, documenting the ownership of Red Hills Wind Project, L.L.C. The document was reviewed during the site visit and it was verified that Red Hills LLC is a wholly owned subsidiary of Acciona, which also constitute an appropriate proof of ownership of the project activity	DR	CL01
Environmental impacts	Information needed that can demonstrate compliance with all applicable environmental regulations as it was not available at the time of the site visit. The required documentation was sent by the project proponents. The document: RedHillsBringDownLetterFINAL121608.pdf (See Ref.04) was revised, which is a letter issued by HDR Engineering that contains a summary of the permitting and environmental analysis performed for the Red Hills Wind Project, L.L.C. This letter was sent along with the file: RedHillsPermitMatrixFINAL.pdf (See. Ref.05) and both documents show the various permits Red Hills needed for its implementation, specifying the corresponding agency, in terms of the installation of wind turbines; construction of road access; power substation; aerial transmission lines; etc.	DR	CL02

A.2 Annex 2: Validation Protocol

Table 1 VCS PD

Checklist Question	Ref. ID	MoV*	Comments	Draft Concl	Final Concl
A. General Description of Project Activity					
A.1. Project Title					
A.1.1. Does the used project title clearly enable to identify the unique VCS activity?	PD	DR	Project is called "Red Hills 123 MW Wind Power Project " Clear link to description of project, the current title is sufficient.	OK	OK
A.1.2. Are there an indication of a revision number and the date of the revision?	PD	DR	Yes, the revision number is clearly indicated as: Red Hills 123 MW Wind Power Project,	OK	OK
A.1.3. Is this in consistency with the time line of the project's history?	PD	DR	Yes, dates corroborate with project initiation October 26 2008 and updates of standards referenced	OK	OK
A.2. Type/Category of the project					
A.2.1. What is the project category which is part of a GHG program that has been approved by the VCS Board?	CDM and VCS website	DR	Yes the project category falls under CDM Scope 1, Energy industries (renewable/non-renewable sources). This is appropriate as the VCS accepts the Sectoral scopes defined by the CDM program.	OK	OK
A.2.2. Is the project a bundled project?	PD interview	DR	Red Hills 123 MW Wind Power Project is not a bundled project.	OK	OK
A.3. Description of the Project Activity					
A.3.1. Is the description delivering a transparent overview of the project activity(ies)?	PD	DR	The description of the project activity is transparent.	OK	OK

A.3.2. Is all information provided in compliance with actual situation or planning?	PD	DR	The Red Hills wind project is located in Southern Custer and Roger Mills counties, Oklahoma, on approximately 5,000 acres of agricultural and grazing land. The project has a capacity of 123 megawatts (MW), consisting of 82 Acciona 1.5 MW turbines.	OK	OK
A.3.3. Is all information provided consistent with details provided in further chapters of the VCS PD?	PD Ref.07 Ref.08	DR, interview	The information collected on site is consistent with details provided in the project description.	OK	OK
A.4. Project Participants					
A.4.1. Is the information on project developer complete and correctly applied?	PD	DR	Acciona Energy North America (Project Participant) is the project developer and the only Project Participant of as shown in PD.	OK	OK
A.4.2. Is all information provided in consistency with details provided by further chapters of the VCS PD (in particular annex 1)?	PD	DR	The VCS Project Description template does not have any Annex I. However, the information regarding project participants have been clearly presented on Table 6, Project Proponent Contact Information.	Ok	OK
A.5. Technical Description of the Project Activity					
A.5.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site indicated (decimal points)?	PD	DR	Section A.4 clearly says the project will be implemented in the State of Oklahoma, USA. The project is located 10 miles north of Elk City in Western Oklahoma at grid coordinates: Latitude: 35.5 °N Longitude: -99.4 °W	OK	OK
A.5.2. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site / those sites?	PD	DR	See G.1.1	OK	OK

A.5.3. Is the category(ies) of the project activity(ies) correctly identified? Is the project a micro or mega project?	PD	DR	Yes the project category falls under CDM Scope 1, Energy Industries. The VCS accepts the Sectoral scopes defined by the CDM program. As per the VCS; a micro project should result in less than 5,000 tones of CO2 equivalent GHG emissions reductions or removals per year whereas mega projects result in more than 1,000,000 tones of CO2 equivalent GHG emissions reductions or removals per year. Neither of these situations corresponds to the case of Red Hills Wind farm project. Therefore, the project is neither a micro project nor a mega project. Under the VCS description Red Hills simply qualifies as a 'project'.	OK	OK
A.5.4. Does the project design engineering reflect current good practices?	PD	DR	The project design and technology applied reflects state of the art technology. The technical information is presented on Table 4 of the PD. The 82 turbines envisaged by the project are developed by the project developer, Acciona, and once installed will have the capacity to displace electricity that would have been delivered to the	OK	OK
A.5.5. Does the description of the technology to be applied provide sufficient and transparent input to evaluate its impact on the greenhouse gas balance and is the explanation how the project will reduce greenhouse gas emission transparent and suitable?	PD	DR	Clear description is given in the PD. See A.5.4. above	Ok	OK
A.5.6. Is all information provided in compliance with actual situation or planning as available by the project participant(s)?	PD Ref.09	Interview	The information provided in the PD is in accordance with actual situation of the project.	OK	OK

A.5.7. Does the project use state of the art technology or would the technology result in a significantly better performance than any commonly used technologies in the host country?	PD	DR	The project design and technology applied reflects state of the art technology. The technical information is presented on Table 4 of the PD. The 82 turbines envisaged by the project are developed by the project developer, Acciona, and once installed will have the capacity to displace electricity that would have been delivered to the	OK	OK
A.5.8. Is the project technology likely to be substituted by other or more efficient technologies within the project crediting period?	PD	Interview	As mentioned above the turbines employed by Red Hills sport state of the art technology developed by Acciona. There are no risks associated to possible displacement of this technology within the crediting period. Wind turbine manufacturers estimate a useful life of between 20 and 30 years for their product.	OK	OK
A.5.9. Does the project require extensive initial training and maintenance efforts in order to work as presumed during the project period?	PD	Interview	Red Hills has the support of Acciona Energia and its Wind Division, which has an extensive record on installation and operations of wind farms. This was verified on their website	OK	OK
A.5.10. Does the project proponent(s) make provisions for meeting training and maintenance needs?	PD	Interview	See A.5.9	Ok	OK
A.5.11. Is a schedule available on the implementation of the project and are there any risks for delays?	(ref15)	interview	During the site visit the chronogram for the development of the Project activity was provided. (ref.15). At the moment of the site visit the activities were on time.	Ok	OK
A.6. Conditions prior to project initiation					
A.6.1. Are the conditions prior to the project initiation described in the VCS PD?	PD	Site visit	Yes, the PD states that agricultural lands surround the project property in all directions and are dominated by livestock pasture. This was verified during the site visit.	Ok	OK

A.7. Compliance with relevant local laws and regulations related to the project					
A.7.1. Are relevant local laws and regulations related to the project identified in the VCS PD?	PD	interviews	The State of Oklahoma does not have state-wide wind farm permitting requirements, leaving permitting up to individual counties. Table 5 in section 1.10 of the PD provides a description and status of all applicable regulatory issues. Furthermore the project proponent provided a permit matrix with the legal regulations applicable for the project activity.	OK	OK
A.7.2. Is the demonstration of compliance with them described in the VCS PD?	na	na	See above	OK	OK
A.8. Identification of Risks that may substantially affect the project's GHG emission reductions or removal enhancements					
A.8.1. Are risks that may substantially affect the project's GHG emission reductions or removal enhancements identified in the VCS PD?	PD	interviews	No risks were identified in the project activity that may substantially affect the project's GHG emission reductions.	OK	OK
A.9. Demonstration to confirm that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction					
A.9.1. Is it demonstrated in the VCS PD that the project was not implemented to create GHG emissions primarily for the purpose of its subsequent removal or destruction?	PD	DR	Not applicable. This type of project does not generate any type of by-product emissions that can be subject to receive carbon credits upon destruction.	OK	OK

A.10. Demonstration that the project has not created another form of environmental credit					
A.10.1. Is it demonstrated in the VCS PD that the project has not created another form of environmental credit?	PD	interview	The only program to which a wind farm like Red Hills could apply in the US could be the Renewable Source Portfolio. A renewable portfolio standard (RPS) is a regulation that requires the increased production of energy from renewable energy sources, such as wind, solar, biomass, and geothermal. The RPS mechanism generally places an obligation on electricity supply companies to produce a specified fraction of their electricity from renewable energy sources. Nevertheless, Oklahoma, the state where Red Hills is located is not a member of the RPS.	OK	OK
A.11. Project rejected under other GHG programs (if applicable)					
A.11.1. Is the project rejected under another GHG program?	PD VCS web	interview	The project has not been rejected under another GHG program	OK	OK
A.11.2. Is the Project rejected by other GHG programs, due to procedural or eligibility requirements where the GHG program applied?	PD VCS web	interview	The project has neither applied to any other GHG program nor been rejected by a different scheme.	OK	OK
A.11.3. Is it clearly stated in the VCS PD all GHG programs for which the project has applied for credits and why the project was rejected?	PD VCS web	interview	See A.9.1 & A.10.1	OK	OK
A.11.4. Are the actual rejection document(s) including explanation provided to the VCS verifier and Registry?	PD VCS web	interview	See A.9.1 & A.10.1	OK	OK

A.12. List of commercially sensitive information (if applicable)					
A.12.1. Is a list of commercially sensitive information provided by the project proponent?	PR2 Services agreement	DR	The project proponents did not request in an explicitly manner to keep any information under special secrecy. However, all the exchange of information is bound by the confidentiality agreement as stipulated in the contract.	OK	OK
B. Baseline and Monitoring Methodology					
B.1. Choice and Applicability					
B.1.1. Is the baseline methodology previously approved by the GHG Programme?	PD	DR	The project makes use of the CDM ACM0002: Consolidated methodology for grid-connected electricity from renewable sources / Version 9. Valid from 27 Feb 09 to 10 Jun 09 Requests for registration can be submitted until 10 Feb 10 23:59 GMT, as per CDM website. This methodology is accepted by the VCS.	OK	OK
B.1.2. Is the baseline methodology the one deemed most applicable for this project?	PD	DR	The project makes use of the CDM Small Scale approved methodology: ACM0002 Grid-connected electricity generation from renewable sources version 7 This is the right methodology for these type of projects	OK	OK

B.1.3. Is the choice of the methodology correctly justified by the VCS PD and is the project in conformance with all applicability criteria of the applied methodology?	PD	Site visit inspection	The applicability conditions of the methodology were verified as follows: [ACM0002] "The project activity is the installation or modification/retrofit of a power plant/unit of one of the following types: hydro power plant/unit (either with a run-of-river reservoir or an accumulation reservoir), wind power plant/unit, geothermal power plant/unit, solar power plant/unit, wave power plant/unit or tidal power plant/unit". Red Hills wind farm project entails the installation of a new wind power plant and that complies with the applicability condition described above.	OK	OK
B.2. Project Boundary					
B.2.1. Are all emission sources and gasses related to the baseline scenario, project scenario and leakage clearly identified and described in a complete manner?	PD	DR	Overall the description of the project boundary is acceptable; the emissions sources and gases included in the project boundary have been clearly identified in the PD.	OK	OK
B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with GHG program guidance and the underlying methodology?	PD	DR	The grid is correctly identified as the Southwest Power Pool (SPP).	OK	OK
B.2.3. Are the project's spatial boundaries (geographical) and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	PD	DR	Project will be confined to the boundaries of the geographic extent of Southwest Power Pool (SPP).	OK	OK
B.3. Identification of the Baseline Scenario					
B.3.1. Does the VCS PD discuss the identification of the most likely baseline scenario? Does the VCS PD 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?	PD	interviews	The PP follows the steps to identify the most likely baseline scenario. The project consists in the generation of renewable energy generation from a wind power plant. See CL03 for more details on discussion of the identification of the BL scenario	OK	OK

B.3.2. Does the application consider 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??	PD	DR	The following alternative were considered in the development of the baseline scenario: Alternative 1: Implementation of the project activity not undertaken as a VCS project activity; Project proponents argue that this alternative would not be feasible because of the reasons presented in the demonstration of the additionality. Though, the '2006 state of the market in the Southwest Power Pool' (Ref.06) reveals that other 61 additional wind farms are in the process of requesting a generation interconnection agreement. However, being Red Hills one of the early movers into wind power generation within the SPP, along with other 9 wind farms (See Ref.10), we can expect that they are to face some penetration barriers as explained in the additionality demonstration, which would make this alternative one of the least viable baseline scenarios. Alternative 2: Implementation of a similar scale renewable energy project such as solar photovoltaic or concentrated solar power; This is somewhat similar to Alternative 1, meaning that renewable energy projects would face similar barriers as compared to wind power plants, thus is not a viable baseline scenario either. Alternative 3: Continuation of the current situation with no project activity. This option seems as the most viable for the time being.	OK	OK
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B.3.3. Is the choice of the baseline compatible with the available data?	PD	DR	The baseline is based on the primary assumption that “Electricity delivered to the grid by the project would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources”.	OK	OK
B.3.4. Is conservativeness addressed in the way of identifying the baseline?	Ref.04 Ref.05	DR	The conclusion on the baseline scenario assumes that other wind power plants that are expected to come into the Southwest Power Pool will face barriers during the implementation phase, similar to those experienced by Red Hills. On the basis of this assumption, project proponents ruled out the “Implementation of the project activity not undertaken as a VCS project activity” as likely baseline scenario to occur. While reviewing the barriers described in the demonstration of the additionality, this assumption seems to be reasonable.	OK	OK
B.3.5. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	PD	DR interview	As explained in question B.3.2. there is a tendency within the Southwest Power Pool that indicates that wind power will increase its proportion in the overall generation mix, as more wind farms are undergoing feasibility studies and requests for interconnection. However, the continuation of the current practice can still be seen as the most likely scenario given the barriers faced by renewable energy projects to enter into the market as explained in the additionality section.	OK	OK
B.4. Additionality					
B.4.1. Does the VCS PD clearly demonstrate the additionality using the approach as given by the methodology and by following all the required steps?	PD	DR	The additionality of the project was demonstrated on the basis of the VCS Test 1 - The Project Test. Project participants presented corresponding arguments for the different steps of the VCS Test 1 (The Project Test), which are: Step 1. Regulatory Surplus; Step 2. Implementation Barriers; and Step 3. Common Practice	CAR06	OK ~~CAR06~~ ~~Closed Out~~

B.4.2. In case of using the additionality tool: Is the 'Additionality Tool' used in the VCS PD latest version available on CDM website? If an earlier version has been used, do the changes impact the discussion in the VCS PD? Are all steps followed in a transparent manner?	PD	DR	Not applicable. The demonstration of the additionality is based on the VCS Test 1	OK	OK
B.4.3. Is the discussion on additionality and the evidence provided consistent with the starting date of the project If the project has started before the validation is it discussed how the funds from VCU / CDM was taken into account in the decision to go ahead with the project activity	PD	DR	The discussion of the additionality is in line with the starting date of the project activity	OK	OK
B.4.4. Is the discussion on additionality consistent with the identification all potential realistic and credible baseline scenarios Do the identified alternative include technologies and practices that include outputs (e.g) cement or services comparable with the proposed VCS project activity	Ref.10	DR interviews	Yes, basically the discussion of the additionality present arguments against Baseline Alternative 1 Implementation of the project activity not undertaken as a VCS project activity and explains why the project activity would not be viable without the VCS benefits	OK	OK
B.4.5. If an investment analysis has been used, has it been shown that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of VCUs?	PD	interviews	Not applicable, the investment analysis was not used for the project	OK	OK

B.4.6. 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?	PD Ref11	interview	The main argument presented for the barriers analysis that "Red Hills would face barriers resulting from investment return constraints and institutional barriers that the potential VCU revenue stream will help to overcome". The PD further explains that "A wind project has three main options in selling the renewable energy that it generates: 1. A Power Purchase Agreement (PPA) with a utility or other load supplier: - Project participants calculated the internal rate of return on the basis of the most recent PPA prices, \$29/MWh as per the PPA structure for a similar project in Oklahoma called Sleeping Bear (see Ref.11, sheet: '01789_200809_contracts'). With this prices the IRR could not reach the chosen benchmark that ranges from 9-10%. This demonstrates that Red Hills returns are not enough to justify its development and this barrier could be alleviated by the VCUs benefits 2. Selling into the real-time market, combined with a financial or physical hedge (such as a swap, floor, or collar) to reduce some price risk. - This option is very unlikely to be selected as it would not remediate Red Hills constraints to generate the levels of revenues required by its investors, being the main reason the continuous price fluctuation within SPP and the low level of participants as shown in Table 10 3. Selling into the real-time market and taking the market price. - In the same manner that the hybrid approach, presented above (market sales combined with financial hedge)	OK	OK
Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.			would not work because of its instability in prices; similarly sole market sales would impose a high risk onto Red Hills. The main reason is that prices ranged		31/63

B.4.7. Has it been shown that the project is not common practice?	Ref.01 Ref.06 Ref.20	DR	Project proponents submitted a study titled "2006 State of the Market Report Southwest Power Pool (SPP), Inc." (Ref.06) was reviewed and it indicates that this grid is mainly composed by natural gas plants (51%); followed by coal fuelled plants (36%); leaving wind and nuclear power with lowest participation the overall composition of the system (1% each). This demonstrates that wind power is not the dominant source of energy supply in the SSP. See CLA04 for more details	OK CL04	OK ~~CL04~~ Closed Out
B.4.8. Is it demonstrated/justified that the project activity itself is not a likely baseline scenario	PD	DR	The conclusion on the baseline scenario assumes that other wind power plants that are expected to come into the Southwest Power Pool will face barriers during the implementation phase, similar to those experienced by Red Hills. On the basis of this assumption, project proponents ruled out the "Implementation of the project activity not undertaken as a VCS project activity" as likely baseline scenario to occur. While reviewing the barriers described in the demonstration of the addditionality, this assumption was found to be reasonable.	OK	OK
B.5. Application of the Baseline Methodology					
B.5.1. Has the approved methodology been applied correctly for determining baseline emissions ?	PD	DR	The ex-ante estimation of baseline emissions was carried out on the basis of an annual estimate of power generation of 439,400. This annual estimate of power generation comes from the multiplication of the firm capacity (123 MW) by the capacity factor (40.78%) and the hours per year (8,760). The estimated value for generation is later multiplied by the grid emission factor as explained in section B.6, so the result for annual emissions reductions is 293,839 tons CO2/year. (See Ref.02 Red Hills emission analysis)	OK	OK

B.5.2. Has the approved methodology been applied correctly for determining project emissions ?	PD	DR	The project activity does not entail generation of project emissions. As per ACM0002, for most renewable energy project activities, P _{Ey} = 0.	OK	OK
B.5.3. Has the approved methodology been applied correctly for determining leakage ?	PD	DR	ACM0002 disregards consideration of leakage emissions. Therefore, no leakage emissions will be computed.	OK	OK
B.5.4. Where applicable, has the approved methodology been applied correctly for the direct calculation of emission reductions	PD	DR	Emissions reductions equal baseline emissions	OK	OK
B.5.5. Have all the methodological choices been explained, have they been properly justified and are they correct	PD	DR	See B.1.2. and B.1.3	OK	OK
B.5.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PD	DR	Uncertainties are properly addressed in the documentation. See monitoring section	OK	OK

B.6. Ex-ante Data and Parameters Used					
B.6.1. Are the data provided in compliance with the methodology?	PD	DR	The main ex-ante parameter applied in the estimation of emission reductions is the grid electricity emission factor. Project proponents calculated the grid emission factor as per ACM0002 and the data was taken from the Energy Information Agency (EIA) for the years 2005, 2006 and 2007. The result of the calculation was 0.67 metric tons CO₂/MWh for the Red Hills Wind farm project. The result was compared against other sources and it proved to be conservative. Other sources revealed the following values: eGRID2007 Version 1.0, Year 2005 Summary Tables, created September 2008. eGRID subregion SPP South (SPSO): - 1,655.25 lb/MWh, which is equivalent to 0.751 metric tons CO₂/MWh and; Updated State-level Greenhouse Gas Emission Coefficients for Electricity Generation. Year 2000 (1998-2000): 0.781 metric tons CO₂/MWh for the state of Oklahoma	OK	OK
B.6.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	Ref.11	DR	The data used for the calculation of the grid emission factor was taken from the Energy Information Agency (EIA). This is an official and reliable source of data	OK	OK
B.6.3. Is the vintage of the baseline data correct?	na	na	The vintage data used for the analysis included the most recent three years, for which data was available, namely 2005, 2006 and 2007 (See Ref.02). This is adequate.	OK	OK

B.7. Calculation of Emissions Reductions					
B.7.1. Has the approved methodology been applied correctly for determining emission reductions?	Ref.01 Ref.02	DR	The ex-ante estimation of baseline emissions was carried out on the basis of an annual estimate of power generation of 439,400 MWh. This annual estimate of power generation comes from the multiplication of the firm capacity (123 MW) by the capacity factor (40.78%) and the hours per year (8,760). The estimated value for generation is later multiplied by the grid emission factor as explained in section B.6, so the result for annual emissions reductions is 293,839 tons CO ₂ /year. (See Ref.02 Red Hills emission analysis)	OK	OK
B.7.2. Are the emission reduction calculations documented in a complete and transparent manner?	Ref.01 Ref.02	DR	Yes, clear documentation in PD of assumptions and values	OK	OK
B.7.3. Have conservative assumptions been used to calculate emission reductions?	Ref.01 Ref.02	DR	The emission factor proved to be conservative. See B.6	OK	OK
B.7.4. Is the projection based on provable input parameter?	Ref.01 Ref.02	DR	The ex ante estimation of emission reductions is based on an annual estimate of power generation. Emission reductions will be monitored during the crediting period and verified on a regular basis. This is appropriate	OK	OK
B.7.5. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	PD	DR	See B.7.3	Ok	OK
B.7.6. Is the calculation of the emission reduction correct?	PD	DR	See B.7.1.	OK	OK

B.7.7. Is the project a micro or mega project?	PD	DR	As per the VCS a micro project should result in less than 5,000 tonnes of CO2 equivalent GHG emissions reductions or removals per year whereas mega projects result in more than 1,000,000 tonnes of CO2 equivalent GHG emissions reductions or removals per year. Neither of these situations corresponds to the case of Red Hills Wind farm project. Therefore, the project is neither a micro project nor a mega project. Under the VCS description Red Hills simply qualifies as a 'project'.	OK	OK
B.8. Emission Reductions					
B.8.1. Will the project result in fewer GHG emissions than the baseline scenario?	PD	Site inspection	Project will reduce GHG emissions as compared to baseline scenario through reduced electric demand associated with residential lighting load.	OK	OK
B.8.2. Is the form/table required for the indication of projected emission reductions correctly applied?	PD	DR	Recomputed at site visit with no calculation errors found	OK	OK
B.8.3. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	PD	DR	Beginning of project may be a bit ambitious, but this should be re-assessed closer to completion of verification	OK	OK
B.9. Monitoring Methodology					
B.9.1. Does the monitoring methodology provide a consistent approach in the context of all parameter to be monitored and further information provided by the VCS PD? Are all parameters and data that is available at validation consistent with the approved methodology	PD	DR	Based on desk review, the project seems to adhere rigorously to methodological recommendations and allowances.	OK	OK

B.9.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	PD	DR	Yes, based on the desk review of the protocols and PD, the project seems to adhere rigorously to methodological recommendations and allowances.	OK	OK
B.10. Data and Parameters Monitored					
B.10.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	PD	DR	Yes, the monitoring plan provide for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions	OK	OK
B.10.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	PD	DR	As per the methodology the key parameter to be monitored relates generation of electricity and delivered to the grid. This is appropriate	OK	OK
B.10.3. Will it be possible to determine the specified project GHG indicators?	PD	DR	See B.10.2	OK	OK
B.10.4. 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?	PD	DR	The parameters presented in the monitoring table provide sufficient information to undertake subsequent verifications	OK	OK
B.10.5. 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?	PD	DR	See B.10.4	OK	OK
B.10.6. Is the monitoring approach in line with current good practice, i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	PD	DR	The monitoring approach is in line with current good practice	OK	OK
B.10.7. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	PD	DR	See B.5.2	OK	OK

B.11. Quality Control (QC) and Quality Assurance (QA) Procedures					
B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	PD	DR	To ensure quality and accuracy, data will be collected on a continuous basis and recorded electronically to minimize the chance of error. The project operator will verify the accuracy of project-related data on a monthly basis and will review the data prior to use in emissions reduction calculations.	OK	OK
B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	PD	DR	Uncertainty levels are expected to be insignificant due to the level of accuracy of the electricity meters. Transda EMS-60 series meter (as the primary meter) and an ION 8600 series meter (as the secondary meter) represent state of the art equipment in the electricity industry	OK	OK
B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of high quality data?	PD	DR	The project operator will report any unscheduled maintenance or repair activities that cause system downtime and would therefore prevent the production of emission reductions from the power generation source.	OK	OK
B.11.4. Is it ensured that data will be bound to national or internal reference standards?	PD	DR	Quality of data will be ensured by the calibrations required by the Interconnection Agreement	OK	OK
B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	PD	DR interview	All data is controlled by an automatic system called: Supervisory Control and Data Acquisition. As an automated system that is subject to internal audits, QA&QCs, this system is not subject to actual manipulation. Changes to its configuration could affect other areas and data coming from other plants managed by the Acciona Energy North America the Systems Operation Center. Therefore, there is no room for deliberate overestimation of emissions reductions.	OK	OK

B.12. Operational and Management Structure					
B.12.1. Is the authority and responsibility of project management clearly described?	PD	DR	Yes, this is clearly described on Section 1.5 of the PD	OK	OK
B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PD	DR	The project manager responsible for the execution of the VCS project is mentioned in the PD, section 1.5	OK	OK
B.12.3. Are procedures identified for training of monitoring personnel?	PD	DR	The personnel in charge of the project activity have experience with the equipment, control instruments and measurement devices associated with the project.	Ok	Ok
B.13. Monitoring Plan (Annex 4)					
B.13.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	PD VCS web	DR interview	Yes, monitoring plan follows VCS rules and is in-line with features of this project. Due to small scale and marginal rate of financial return, this project will not do house by house studies, but will rather rely on technology infiltration rate.	OK	OK
B.13.2. Does the monitoring plan completely describes all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	PD	DR	A Clarification Request (CL06) was raised in order to ask project developers to clarify the lack of full knowledge of monitoring tasks and operation and maintenance activities by the personnel on-site. Some of these activities related to field calibration of meters and meter agent; responsibilities for regular maintenance; management systems; calibration log and so forth. This CL was closed after project developers explained that the personnel on-site were focused on building the project and had not been provided with all of the details on O&M in the future yet. However, the proper training and communication will be provided. This is acceptable and, as previously explained, these issued have to be included in the monitoring plan (which they are) and will be checked during the verification.	CAR09	OK ~~CAR09~~ Closed Out

B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	PD	DR	The monitoring plan includes clear information on the monitoring equipment. The device record will include a basic specification sheet for each metering device used to measure the wind energy output to the grid	OK	OK
B.13.4. Are procedures identified for calibration of monitoring equipment?	PD	DR	The monitoring plan also specifies that the project operator will provide an annual report detailing the calibration activities associated with the project activity, as required by the Interconnection Agreement	OK	OK
B.13.5. Are procedures identified for maintenance of monitoring equipment and installations?	PD	interview	The site manager was interviewed and he explained that maintenance of monitoring equipment is mandatory as per the Interconnection Agreement	OK	OK
B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	PD	DR	Generation data will be archived electronically for the duration of the project and kept for two years after the project ceases operations.	OK	OK
B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems??	PD	DR	There are clear indications for extraordinary events included in the monitoring plan. The project operator will report any unscheduled maintenance or repair activities that cause system downtime and would therefore prevent the production of emission reductions from the power generation source	OK	OK
B.13.8. Are procedures identified for internal audits of GHG project compliance with operational requirements where applicable?	PD	DR	All quality assurance and quality control practices as well as internal audits are embedded into the Supervisory Control and Data Acquisition.	OK	OK
B.13.9. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	PD	DR	See B.13.8	OK	OK

B.14. Baseline Details					
B.14.1. Is there any indication of a date when determine the baseline?	PD	DR	The baseline study was finished on September, 2008. The vintage data used for the analysis included the most recent three years, for which data was available, namely 2005, 2006 and 2007. This is adequate.	OK	OK
B.14.2. Is this in consistency with the time line of the VCS PD history?	PD	DR	The vintage data is in line with the project report history.	OK	OK
B.14.3. Is all data required provided in a complete manner by annex 3 of the VCS PD?	PD	DR	Annex 3 is used under the CDM PD. All data that exemplifies the estimation of baseline emissions is clearly described in Annex A of Red Hills PD	OK	OK
C. Duration of the Project / Crediting Period					
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	PD	DR	The start date of the crediting period is marked by the date when commercial operation began. This was on October 26th, 2008. The operational lifetime of the project is expected to be 20 years, so the crediting period will fit and end within this lifespan.	OK	OK
C.1.2. If the project is registered with other registry like CDM or Gold Standard pls. check that, No double issuance of ERs takes place for the same or part of the crediting period.	PD Cdm, gold std, CCAR websit e	DR	The project would not qualify as a CDM activity as it is located in the United States. Other registries such as the Gold Standard Registry and the Climate Reserve were reviewed and there is no indication that Red Hills is registered under those programs.	OK	OK
C.1.3. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2 renewals or fixed crediting period of max. 10 years)?	PD	DR	The assumed crediting time is clearly defined and reasonable	OK	ok
C.1.4. Does the project's operational lifetime exceed the crediting period	PD	DR	See C.1.1.	Ok	Ok

D. Environmental Impacts					
D.1.1. Does the project comply with environmental legislation in the host country?	PD	interview	A clarification request (CL02) was raised in order to ask project participants to provide information that can demonstrate compliance with all applicable environmental regulations as it was not available at the time of the site visit. CL02 was closed out after reviewing the documentation sent by the project proponents. The document: RedHillsBringDownLetterFINAL121608.pdf (See Ref.04) was revised, which is a letter issued by HDR Engineering that contains a summary of the permitting and environmental analysis performed for the Red Hills Wind Project, L.L.C. This letter was sent along with the file: RedHillsPermitMatrixFINAL.pdf (See. Ref.05) and both documents show the various permits Red Hills needed for its implementation, specifying the corresponding agency, in terms of the installation of wind turbines; construction of road access; power substation; aerial transmission lines; etc. These two documents provide a comprehensive overview of the project's compliance with applicable environmental regulations, hence CL02 was closed out.	OK	Ok
D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described?	PD	interview	Project proponents conduct a comprehensive assessment of environmental impacts that included: - potential impacts to whooping cranes; - bat assessment using acoustic monitoring equipment - wetlands delineation	OK	OK ~~CL08~~ Closed out

D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	PD	interview	The PD said: Acciona Energy North America <u>voluntarily contracted</u> HDR Engineering, Inc. (HDR) and Western Ecosystems Technology Inc. to complete the environmental site assessment (ESA) and Biological Assessment of the property proposed for the Red Hills Wind Project. Considering that any project of this magnitude would require an EIA CL02 was raised in order to ask project proponents to clarify what was meant by voluntarily. Project proponents clarified that An EIA is not needed unless there is a Federal Nexus, which did not apply for this project. Correspondence with the US Fish and Wildlife Service is recommended (and may be needed to finance a project with third party funding), but legally is not required. In addition, a simple assessment from USFWS may have been sufficient without longer term bird and bat studies to get financing (unknown though industry best practice is to do studies). Therefore, all of the environmental studies were voluntary.	OK	OK
D.1.4. Will the project create any adverse environmental effects?	PD	DR	Concerning threats to birds. Western Ecosystems determined that; "The Red Hills project avoids many of the potential impacts to whooping cranes due to its distal proximity to the main migratory flyway."	Ok	OK
D.1.5. Are transboundary environmental impacts considered in the analysis?	PD	Site visit	No transboundary environmental impacts were observed	OK	OK

D.1.6. Have identified environmental impacts been addressed in the project design?	PD	Site visit	Project proponents have addressed the identified environmental impacts in the project design as follows: - turbine Design: Acciona will use monopole, tubular designs that eliminate avian perching sites - Collector Line Design: Acciona will bury the majority (about 88%) of the collector lines for the project - Lighting: The Red Hills Wind Project will use the minimum amount of lighting as required by Federal Aviation Administration Other measures to mitigate air and noise impacts	OK	OK
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E. Stakeholder Comments

E.1.1. Have relevant stakeholders been consulted?	Ref.06	interviews	The stakeholders' consultation was organized by Roger Mills County and the meeting took place February 11th and June 16th 2008. A clarification request was raised CL07, so project participants can clarify the following issues: a. How relevant stakeholders were identified? What was the criterion for the selection of relevant stakeholders b. The PD mentions local officials also participated in that meeting? Which were those? c. Please provide copies of the invitations sent This request for clarification was closed out. Project proponents satisfactorily clarified that Roger Mills County, the department responsible for the stakeholders' consultation, has specific criteria for this type of consultation, so it was the County was in charge of the invitations. The file Roger Mills County Zoning Ordinance 2007 states that "No building (structure) shall be located closure than ten (10) feet to a side lot line, except when abutting dwelling. Then, it shall have a three hundred (300) feet side yard". To this extent, Section 9-4. Procedure for Authorizing Conditional Uses Permitted on Review, further states that the uses shall be reviewed and authorized or rejected under the following procedures: "An application together with a file of no less than one hundred dollars (\$100.0) shall be filed with the Planning Commission for review. Said application shall show the location and intended use of the site, the names of all the property owners and existing land uses within three hundred (300) feet, and any other materials pertinent to the request which the Planning Commission may require". This indicates that the main stakeholders to be consulted were the adjacent	Ok	Ok ~~CL07~~ ~~Closed Out~~
Reference to Part of this Report Which may Lead to Misinterpretation is not Permissible.			landowners who were invited to participate in the public hearing of the project. Others were reached out via a published affidavit that Roger		46/63

E.1.2. Have appropriate media been used to invite comments by local stakeholders?	PD Ref.16	DR	The Publishers affidavit receipts for what the county charged Acciona to publish in the paper are attached (Ref.16 - Roger Mills County Permit - Publishing Fee.pdf)	OK	OK
E.1.3. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws?	Na	na	No applicable laws in the State of Oklahoma require to do so	Ok	Ok
E.1.4. Is the undertaken stakeholder process described in a complete and transparent manner?	PD	interview	The stakeholder process was described accordingly in Section 6 of the project description	Ok	Ok
E.1.5. Is a summary of the stakeholder comments received provided?	PD	DR	A complete summary of the stakeholders' comments was included in the project description. Overall, most of the stakeholders welcomed the implementation of the wind farm.	OK	OK
E.1.6. Has due account been taken of any stakeholder comments received?	PD	DR	There was only one complaint presented by one landowner who was concerned about the proximity of turbines to his property. The issue was resolved without any major complications.	OK	OK

F. Schedule					
F.1.1. Is there a Chronological plan for the date of initiating project activities, date of terminating the project, frequency of monitoring and reporting and the project period, including relevant project activities in each step of the GHG project cycle?	PD Ref.14 ,16	DR	For the sake of transparency, a clarification request (CL05) was raised in order to ask project participants to provide a schedule showing relevant milestones (e.g. decision to undertake the project, ordering and purchasing, request and issuance of permits, decision to pursue for VCS credits, commissioning of equipments, etc.) supported by evidence (i.e. contracts, quotes, purchasing orders, commissioning certificates, etc.) The project participant provided the timeline schedule as of 30 November 2007, which contains the labor chronogram. Furthermore the project participant provided the document Red Hills Project Timeline (See Ref.14&15), which specifies the dates for major actions taken by the project developer. Since the information was found to be complete and consistent, CL05 was closed out.	CL05	~~CL05~~ Closed Out OK
G. Ownership					
G.1. Proof of Title					
G.1.1. Is evidence of proof of title provided?	PD	DR	Project proponents provided the EIA form 860 as a 'proof of title', which was presented to the U.S. Department of Energy Information Agency. This is acceptable as this report is mandatory for all grid connected electricity generator, as per the Federal Energy Administration Act of 1974 (Public Law 93-275)	OK	OK

G.2. Projects that reduce GHG emissions from activities that participate in an emissions trading program (if applicable)					
G.2.1. Is the project proponent of the project included in an emission trading program?	PD	interview	The only program to which a wind farm like Red Hills could apply in the US could be the Renewable Source Portfolio. A renewable portfolio standard (RPS) is a regulation that requires the increased production of energy from renewable energy sources, such as wind, solar, biomass, and geothermal. The RPS mechanism generally places an obligation on electricity supply companies to produce a specified fraction of their electricity from renewable energy sources. Nevertheless, Oklahoma, the state where Red Hills is located is not a member of the RPS.	OK	OK
G.2.2. Does the project take place in a jurisdiction or sector in which binding limits are established on GHG emissions?	PD	interview	The state of Oklahoma does not have regulations in terms of the amount of GHG being emitted. Once Red Hills wind farm starts operations, it would be a zero emission activity.	OK	OK
G.2.3. Is evidence that the reductions or removals generated by the project have or will not be used in the Program or jurisdiction for the purpose of demonstrating compliance provided?	PD	interview	The State of Oklahoma does not have a GHG cap and trade program	OK	OK



References

Ref. ID	Title / Description	Comments
Ref.01	- Red Hills_VCS PD_080909.pdf	Initial version of the PD
Ref.01	- Red Hills_VCS PD_090502.doc	Second version of the PD
Ref.02	- RH summary financials_PPA scenarios.xls	Spreadsheet with IRR calculations
Ref.03	- ACM0002 v9.pdf	Applicable methodology
Ref.04	- RedHillsBringDownLetterFINAL121608.pdf	
Ref.05	- RedHillsPermitMatrixFINAL.pdf	Environmental and legal compliance
Ref.06	- SSP state of the market.pdf	Description of the Southwest power pool market conditions
Ref.07	- RTO and ISOs.pdf	Regional Transmission Organizations and Independent System Operators
Ref.08	- NERC Interconnections.pdf	Electrical systems in the US territory
Ref.09	- Acciona plants in the US.htm	Other wind farms implemented in the US by Acciona
Ref.10	- Oklahoma wind projects.xls	Other wind projects in OK
Ref.11	- PPA structure_Sleeping Bear.xls	Sleeping bear wind farm, PPA data
Ref.12	- WACC Ventyx.PDF	Ventyx study: Midwest Regional Outlook
Ref.13	- WACC Ventyx.xls	Ventyx study: Midwest Regional Outlook
Ref.14	- Red Hills project timeline.doc	Self explanatory
Ref.15	- Red Hills Wind Farm - Project Schedule.pdf	Self explanatory
Ref.16	- Roger Mills County Permit - Publishing Fee.pdf	Self explanatory
Ref.17	- Roger Mills County Zoning Ordinance 2007.pdf	Self explanatory
Ref.18	- Roger Mills Publishers Affidavit.pdf	Self explanatory
Ref.19	- SPP Pricing	Energy prices
Ref.20	- SPP_Wind_Generation	Wind generation potential
Ref.21	- Turbine Prices dated 2007-10-29	Turbine prices
Ref.22	- Subsidy in power generation.pdf	Self explanatory

Ref. ID	Title / Description	Comments
Ref.23	- RH Wind Assessment.doc	Assessment of Red hills wind potential
Ref.24	- SPP slide_VCS.ppt	More explanations about the Southwest Power Pool
Ref.25	- WFEC letter VCS.pdf	Support letter from the Western farmers electric cooperative
Ref.26	- Decommissioning Report_final.pdf	Report by external consultant, used to justify exclusion of residual value from the financial analysis
Ref.27	- Red Hills Summary of Exp Assumptions.pdf	Explanations of assumptions made on the financial spreadsheet

A.3 Annex 3: Overview of Findings

Findings from validation of **Red Hills 123 MW Wind Power Project**

Each Table below represents a finding from the validation assessment. The findings are numbered consecutively, approximately in the order that they have been identified and irrespective of the nature of the findings, for eg.: CAR #1, CAR #2, CL #3, FAR #4 etc.

Description of Table:

Type	Findings are either Corrective Action Requests (CARs), Clarification Requests (CLs) or Forward Action Request (FARs). A corrective action request (CAR) is raised if one of the following occurs: 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 VCS requirements have not been met; iii. There is a risk that emission reductions cannot be monitored or calculated. A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable requirements of the scheme have been met 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 requirements of the scheme for renewal of crediting period.
Issue	Details the content of the finding
Ref	Refers to the item number in the Validation Protocol
Response	Please insert response to finding, starting with the date of entry.

Please Note: This is an open list and more findings may be added as validation progresses.

Responses to each Finding and relevant associated documentation should be recorded in this form by the Client and send back to the Lead Assessor in one submission to SGS.

SGS reserves the right to review the associated fees and timeline if:

- more than one response submission is received from the Client
- a finding (CL/CAR), raised by the Lead Assessor prior to Technical Review stage, is not closed within 30 days of notification to the Client by SGS.

Rows for comments and further response will be appended to the table until the Findings has been addressed to the satisfaction of the Lead Assessor.

Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	2	7	0

No.: CL01	Raised by: SGS Validation Assessment Team		
Issue: Description of Project Developers		Reference: Validation Protocol, Section G	
Lead Assessor Comment:		Date: January 12 th , 2009	
Supply documentation that Red Hills LLC is a wholly owned subsidiary of Acciona			
Project Participant Response:		Date: January 26, 2009	
Please see attached Purchase & Sale Agreement documenting the ownership of Red Hills Wind Project, L.L.C.			
Acceptance and Close out by Lead Assessor:		Date: April 15 th , 2009	

Reasoning for not acceptance or acceptance and close out:
Project developers submitted a Purchase & Sale Agreement, documenting the ownership of Red Hills Wind Project, L.L.C. The document was reviewed during the site visit and it was verified that Red Hills LLC is a wholly owned subsidiary of Acciona, which also constitute an appropriate proof of ownership of the project activity.

No.: CL02	Raised by: SGS Validation Assessment Team
Issue: Environmental Impacts	Reference: Validation Protocol, Section D
Lead Assessor Comment:	Date: January 12th, 2009
A clarification request (CL02) was raised in order to ask project participants to provide information that can demonstrate compliance with all applicable environmental regulations as it was not available at the time of the site visit. The issue was discussed with the project developers who stated they were going to submit independent engineers' report which discusses permits and rulings. Please provide this document while specifying the sections that demonstrate compliance with the different environmental regulations. By the same token, the PD says: Acciona Energy North America <u>voluntarily contracted</u> HDR Engineering, Inc. (HDR) and Western Ecosystems Technology Inc. to complete the environmental site assessment (ESA) and Biological Assessment of the property proposed for the Red Hills Wind Project. Please clarify what is meant by voluntarily as any project of this magnitude would require an EIA?	
Project Participant Response:	Date: January 26, 2009
Please see attached letter and matrices from HDR (<i>RedHillsBringDownLetterFINAL121608.pdf</i> and <i>RedHillsPermitMatrixFINAL.pdf</i>). These documents summarize the environmental and other permits required and the project's compliance with such permits. An EIA is not needed unless there is a Federal Nexus, which did not apply for this project. Correspondence with the US Fish and Wildlife Service is recommended (and may be needed to finance a project with third party funding), but legally is not required. In addition, a simple assessment from USFWS may have been sufficient without longer term bird and bat studies to get financing (unknown though industry best practice is to do studies). Therefore, all of the environmental studies were voluntary.	
Acceptance and Close out by Lead Assessor:	Date: April 15th, 2009
Reasoning for not acceptance or acceptance and close out: CL02 was closed out after reviewing the documentation sent by the project proponents. The document: <i>RedHillsBringDownLetterFINAL121608.pdf</i> (See Ref.04) was revised, which is a letter issued by HDR Engineering that contains a summary of the permitting and environmental analysis performed for the Red Hills Wind Project, L.L.C. This letter was sent along with the file: <i>RedHillsPermitMatrixFINAL.pdf</i> (See. Ref.05) and both documents show the various permits Red Hills needed for its implementation, specifying the corresponding agency, in terms of the installation of wind turbines; construction of road access; power substation; aerial transmission lines; etc. These two documents provide a comprehensive overview of the project's compliance with applicable environmental regulations, hence CL02 was closed out.	

No.: CL03	Raised by: SGS Validation Assessment Team
Issue: Identification of the baseline scenario	Reference: Validation protocol Section B.3
Lead Assessor Comment:	Date: January 12th, 2009
A clarification request was raised in order to ask project participants to review the arguments presented in the identification of the baseline scenario: - Project proponents ruled out Alternative 1 (Implementation of the project without the carbon revenues) as the baseline by saying: <i>"There are currently no regulatory requirements that compel the implementation of either Alternative 1 or Alternative 2"</i>. To this extent, it should be observed the wind power is a widely-applicable proven-technology and therefore does not require to be enforced by any Legal Mandate. Hence, the project activity not undertaken as a VCS is a credible alternative consistent with current laws and regulations. - Similarly, the paragraph dedicated to common practice bases its conclusion on the composition of the Southwest Power Pool. Nevertheless, by definition a common practice assessment shall rather analyze the extent to which the proposed project type (e.g. technology or practice) has already	

diffused in the relevant sector (i.e. electricity sector) and region (i.e. at least the country in question). To this extent, the mere selection of the grid to which Red Hills is connected (SPP) is inappropriate as it significantly limits the results of a common practice analysis. Please review.	
Project Participant Response:	Date: February 4, 2009
a. The statements in section 2.4 regarding regulatory requirements are made to fulfill sub-step 1B of the CDM Methodological Tool, Consistency with mandatory laws and regulations. The conclusion is that all three alternatives are credible with respect to laws and regulations. However, in the second to last paragraph of section 2.4, the very low penetration of wind and other renewable sources is pointed out. This is the rationale for Alternative 3 being the baseline scenario. b. Both CDM and VCS call for the definition of the relevant sector and region. In this case, the sector is clearly electricity. The region cannot be the entire United States because the movement of power is restricted by the interconnection system. There are three interconnections in the US: Eastern, Western, and ERCOT (see attached file: <i>NERC Interconnections.ppt</i>). Therefore, the region must be something limited to the Eastern Interconnection. However, the region should be larger than the state of Oklahoma because power from Oklahoma can be delivered anywhere within the Southwest Power Pool (SPP). SPP is one of the nine Independent System Operators/Regional Transmission Organizations (ISO/RTO) in North America (see attached file: <i>ISOs.ppt</i>). As an ISO under the Federal Energy Regulatory Commission (FERC), SPP operates the market for electricity in the Southwest, ensuring reliable supplies and competitive wholesale prices of power. SPP started its real-time market operations in early 2007, and is directly interconnected with the Midwest ISO which has been operating a market since the spring of 2005. As an RTO, SPP provides transmission service on the transmission facilities (currently 40,364 miles of transmission lines) owned by its members under its Open Access Transmission Tariff ("OATT" or "Tariff"). SPP also maintains adequate transmission infrastructure for the area, carrying out expansions when required. In conclusion, based on the structure of the U.S. electrical system, the relevant region for the Red Hills project is the Southwest Power Pool.	
Acceptance and Close out by Lead Assessor:	Date: April 15 th , 2009
Reasoning for not acceptance or acceptance and close out: CL03 was closed after discussing and clarifying the nature and relevance of the Southwest Power Pool. Project proponents claim the baseline scenario would correspond to continuation of the current practice in the absence of the Red Hills wind farm, which is to say: power demand will be supplied by the grid. To this extent, there are two important aspects that have to be considered when determining the baseline scenario. The first element relates to the Renewable Portfolio Standard, which is a mechanism that places an obligation on electricity supply companies to produce a specified fraction of their electricity from renewable energy sources. Complementarily, certified renewable energy generators earn certificates for every unit of electricity they produce and can sell these along with their electricity to supply companies. Unfortunately, the State of Oklahoma does not have RPS policies in place and therefore wind power plants are not eligible for that type of incentive. The second element has to do with the delimitations applied for 'common practice analysis' (i.e. also related to the demonstration of additionality). Project proponents provided additional information in order to clarify that the 'region' selected for the purpose of the analysis was the Southwest Power Pool which is a Regional Transmission Organization (See Ref.07) lies within the Eastern Interconnection as defined by the North American Electric Reliability Corporation (See Ref.08). This approach seemed adequate as per the regulations and restrictions of interconnected power systems in the US.	

No.: CL04	Raised by: SGS Validation Assessment Team
Issue: Demonstration of Additionality	Reference: Validation Protocol Section B.4
Lead Assessor Comment:	Date: January 12 th , 2009

A clarification request was raised in order to address the following issues related to the demonstration of the additionality:

- a. The PD states "the determination of additionality using the VCS Project Test includes all of the elements prescribed by the CDM Tool for the Assessment and Demonstration of Additionality. Note that the demonstration of the additionality, as presented in the PD, does not include all of the steps prescribed by the Tool for the demonstration and assessment of additionality. Please review and amend as necessary.
- b. Step 2: Implementation Barriers: project developers evaluated three possible options to sell the electricity they will be generating and explain a series of obstacles Red Hills is expected to face. Being Acciona Energia a company dedicated to the electricity generation and commercialization business, please explain what does make Red Hills different from Blue Canyon, Velva and Tatanka (See Ref.10) in regard to the ways these barriers are to be overcome?
- c. The PD states the Sleeping Bear-PSO PPA weighted average price is \$29/MWh and says further that electricity prices in the SPP market increased by an average of 20% and 40% annually from 2007 to 2008. The following evidence shall be submitted:
 - c.1 Please provide the source document that justifies the values presented in Table 8: Sleeping Bar - PSO PPA;
 - c.2 Please provide the source document of that 20%-40% increase;
 - c.3 If "this escalation rate was assumed to continue in the future", please explain why the PD says below that "The PPA price was assumed to escalate at 2% per year starting one year after the PPA execution.
 - c.4 Please provide the calculation of Red Hills IRR (4.0-6.5%) as presented in Table 9;
 - c.5 Provide the estimation, rationale and parameters used to determined the benchmark (8.0-10.0%)
- d. While providing the cash flow and value of the initial investment please clarify why the spreadsheet has no values for interest payments (row17) despite of the fact that the project file: Red Hills Wind Farm - Project Schedule.pdf indicates in the Finanacing section 7 that Red Hills incurred in some sort of debt with lenders. Also please clarify what type debt-equity proportion was structured for the implementation of Red Hills (60%/40% ; 40%/60% or 0%/100%) as expressed in the WACC file: Ventyx Capital Structure and Returns.

Project Participant Response:

Date: February 4, 2009

- a. PD has been revised and the comment has been removed.
- b. Every wind project is different based on the strength of the wind resource, the cost to build the project, and market conditions for off-take (power purchasers, RPS, etc.). Red Hills is a candidate for VCS based on the economic results of its particular project characteristics, whereas other projects may not be.
- c. Answers below:
 - c.1 Source document that justifies the values presented in Table 8: Sleeping Bar - PSO PPA – see attached (*PPA structure_Sleeping Bear.xls*)
 - c.2 Source document of that 20%-40% increase – see attached (*SPP pricing.xls*)
 - c.3 The escalation rate for the Red Hills PPA was assumed to be 2%, which is a typical rate of escalation on a PPA to account for the fact that a portion of the costs are subject to inflation and other variable factors. This is not the same as the 20-40% because that represents the historical increase in market prices.
 - c.4 Calculation of Red Hills IRR (5.2-7.5%) as presented in Table 9 – see attached (*RH Summary Financials_PPA Scenarios.xls*)
 - c.5 Estimation, rationale and parameters used to determined the benchmark (8.0-10.0%) – see attached (*Project Returns.pdf, project returns.xls*)

- d. The project will not take on debt, but will be financed through a combination of an equity investment from a tax investor to receive both project cash flows and Production Tax Credits, and equity from Acciona Wind Energy USA

Acceptance and Close out by Lead Assessor:

Date: April 15th, 2009

Reasoning for not acceptance or acceptance and close out:

CL04 remains open. Some of the elements of the demonstration of the additionality need to be further justify:

- a. OK;
- b. OK. It is of common knowledge and understanding that each project will respond to certain conditions that are specific to the case in question. The request for clarification was rather intended to clarify what are the challenges faced by Red Hills that make it distinctive from other projects previously implemented by Acciona. While reviewing the location of the other projects it was confirmed that they operate in States the are member of the RPS (Blue Canyon, IL; Velva, ND; Tataka, ND; EcoGrove; IL). That is probably the main difference.
- c. Answer below:
 - c.1 PPA structure_Sleeping Bear.xls: OK
 - c.2 Source document of that 20%-40% increase – see attached (Specify the name of the file and exact reference)
 - c.3 Escalation rate (20-40% market price vs. 2% PPA): OK
 - c.4 RH Summary Financials_PPA Scenarios.xls. In order to be able to validate the financial additionality the audit team needs to be able to recreate the IRR calculation. Note that the file provided does not have the projection of generation of electricity (i.e. one of the variables needed to calculate revenues, row 9). Similarly, we need to see the formula and range of values used for the IRR. Please provide an excel file including relevant formulae as well as traceable input data.
 - c.5 Project Returns.pdf, project returns.xls: As there are three interconnections in the US: Eastern, Western, and ERCOT, it can be expected that each of them will have different characteristics, market conditions and benchmarks. Please justify the use of the Ventyx study (Midwest Regional Outlook) as the basis for the WACC of a project being implemented in the Eastern Interconnection (Ref.13 & Ref14).
- d. OK;

Project Participant Response:

b. In addition to individual project characteristics, projects will differ based on the timing and market conditions. The external environment (turbine pricing, power prices, etc.) has dramatically changed over the past few years.

c. See below:

- c.1 Already addressed;
- c.2 Source document of that 20%-40% increase – see attached (*spp pricing.xls*). This analysis was completed shortly before the original PD was submitted showing a price increase of 34% from 2007 to 2008. Therefore an assumption of 20-40% was made. Pricing has since declined so if the analysis were updated, a lower escalation would be assumed, making the case even stronger.
- c.3 Already addressed
- c.4 *RH Summary Financials_PPA Scenarios.xls* has been updated and is attached. The IRRs are different because the model calculates based on quarterly cash flows. However, the summary is annual cash flows and that is why you see the adjustment in IRR.
- c.5 The Ventyx study is issued for different geographical regions, but the data on project returns is standard to all editions. Further, the Midwest edition is the version that includes the Southwest Power Pool. Ventyx has calculated the range of returns typical of what project developers require, no matter what geography they are in.

Acceptance and Close out by Lead Assessor:

Date: April 15th, 2009

Reasoning for not acceptance or acceptance and close out:

- a. OK;
- b. The project participant has provided evidence of external factors as the increase of turbine prices ref.21 and the electricity prices ref.19. OK.
- c. All issues addressed:
 - c.1 Has been solved already
 - c.2 The PP provided the SPP pricing ref.19 showing an increase of 34%. Making the escalation rate 20-40% OK.
 - c.3 Has been solved already
 - c.4 Project Participant has provided a revised version of RH Summary Financials_PPA Scenarios.xls OK.
 - c.5 OK.

After PP provided evidence clarifying the additionality of the Project Activity CLA04 was closed out.

No.: CL05	Raised by: SGS Validation Assessment Team
Issue: Duration of the project	Reference: Section A.5.11 and C
Lead Assessor Comment:	Date: January 12 th , 2009
For the sake of transparency, a clarification request (CL05) was raised in order to ask project participants to provide a schedule showing relevant milestones (e.g. decision to undertake the project, ordering and purchasing, request and issuance of permits, decision to pursue for VCS credits, commissioning of equipments, etc.) supported by evidence (i.e. contracts, quotes, purchasing orders, commissioning certificates, etc.)	
Project Participant Response:	Date: February 17, 2009
See attached timeline (<i>RH project timeline.doc</i>)	
Acceptance and Close out by Lead Assessor:	Date: April 15 th , 2009
Reasoning for not acceptance or acceptance and close out: Project developers provided the timeline schedule as of 30 November 2007, which contains the labor chronogram. Furthermore the project participant provided the document Red Hills Project Timeline (See Ref.14&15), which specifies the dates for major actions taken by the project developer. Since the information was found to be complete and consistent, CL05 was closed out.	

No.: CL06	Raised by: SGS Validation Assessment Team
Issue: Awareness of Monitoring Plan	Reference: B.13
Lead Assessor Comment:	Date: January 12 th , 2009
A request for clarification was raised in order to address the following issues concerning the monitoring plan: a. During the inspection of the metering location at the Western Farmers Electrical Co-Op interconnect; it was observed that the site operator was not aware of any field calibration of either meter having occurred; b. Similarly, the site operator mentioned the role of the meter agent (Constellation); however project participants were not able to fully describe the role Constellation plays in meter maintenance or calibration. Please clarify; c. The PD says in section "3.4 Description of the monitoring plan": <i>"The project operator is responsible for monitoring the electricity generation facility. The monitoring plan will include data monitoring, regular equipment maintenance and calibrations, and data management/archiving. Overall responsibility for the accurate measurement and archival of generation information is managed by the Acciona Energy North America Systems Operation Manager, Philip Stiles."</i> Nevertheless, the person who reports directly to Philip Stiles was asked to explain the on site responsibilities for ensuring regular maintenance, calibrations and data management and was not aware of a management system for these activities. Note: avoid reference to personnel's names in the PD.	

- d. The PD notes that "Apart from using SCADA for the aforementioned operations, the SOC also assists with wind farm asset management through MAXIMO software. The SOC uses MAXIMO to track Operations & Maintenance (O&M) functions; it issues work orders and distributes them to site technicians and administrators which share and update the same MAXIMO database." Nevertheless, On-site operations personnel were not aware of Acciona management systems relating to O&M tracking.
- e. In addition, the PD states that - "The parameters laid out in section 3.3 above will be monitored and the associated data will be aggregated and reported according to the following procedures. "Metering Devices: The project operator will provide metering device information for all test, measurement, and project operating equipment on or before the start of project operations. This information will be updated over the life of the project as devices are replaced. The device record will include a basic specification sheet for each metering device used to measure the wind energy output to the grid. Yet, the responsible personnel were not aware of these requirements. The associated reports were not available on site.
- f. Calibration Log: The project operator will perform metering device calibrations as required by internal standard operating procedures and as specified in the Interconnection Agreement. The project operator will provide an annual report detailing the calibration activities associated with the project activity. A copy of each calibration report will be included in the calibration log. The calibration log will also include initial factory calibration records and field test documents showing the calibration upon. However, the responsible personnel was not aware of these requirements. The associated reports were not available on site, including: calibration report, calibration log, initial factory calibration and field test documents prepared at the time of installation. No evidence of "internal standard operating procedures" for meter calibration were available on site.
- g. Extraordinary Events: The project operator will report any unscheduled maintenance or repair activities that cause system downtime and would therefore prevent the production of emission reductions from the power generation source.

The overall assessment indicates the responsible staff for monitoring activities is not yet aware of the specifics of the monitoring plan. Although not crucial for the validation stage, these issues will be a fundamental component of the verification exercise. Please explain the reasons of these inconsistencies and provide evidence that supports the commitment Acciona will have towards an effective dissemination, amongst personnel, of the monitoring plan requirements needed for the VCS project. Make amendments to the PD where necessary.

Project Participant Response:

Date: February 17, 2009

The majority of the above questions were addressed by the O&M manager during SGS visit to Chicago, the headquarters of Acciona's Systems Operation Center. The personnel on-site were focused on building the project, and had not been provided with all of the details on O&M in the future yet. However, the proper training and communication will be provided to all staff related to the VCS project.

The response to the clarification posed above is that Constellation is the Meter Agent for Red Hills which encompasses communicating the data from the meters to the Southwest Power Pool.

Acceptance and Close out by Lead Assessor:

Date: April 15th, 2009

Reasoning for not acceptance or acceptance and close out:

A Clarification request (CL06) was raised in order to ask project developers to clarify the lack of full knowledge of monitoring tasks and operation and maintenance activities by the personnel on-site. Some of these activities related to field calibration of meters and meter agent; responsibilities for regular maintenance; management systems; calibration log and so forth. This CL was closed after project developers explained that the personnel on-site were focused on building the project and had not been provided with all of the details on O&M in the future yet. However, the proper training and communication will be provided. This is acceptable and, as previously explained, these issues have to be included in the monitoring plan (which they are) and will be checked during the verification.

No.: CL07

Raised by: SGS Validation Assessment Team

Issue: Stakeholders consultation	Reference:
Lead Assessor Comment:	Date: January 12 th , 2009
A clarification request was raised, so project participants can clarify the following issues: - How relevant stakeholders were identified? What was the criterion for the selection of relevant stakeholders - The PD mentions local officials also participated in that meeting? Which were those? - Please provide copies of the invitations sent	
Project Participant Response:	Date: January 26, 2009
- Roger Mills County has specific criteria outlined in the Roger Mills County Zoning Ordinance for the stakeholders required to be consulted (attached file <i>Roger Mills County Zoning Ordinance 2007.pdf</i>). Any turbine (or met tower) located within 300 feet of a property line requires direct notice by mail to the adjacent landowner. Other stakeholders were notified through a published affidavit that Roger Mills County published in the local paper inviting anyone to the public meeting (<i>Roger Mills Publishers Affidavit and Receipt for Additional Turbine and Met Towers.pdf</i>). Criterion are outlined in the attached Roger Mills County Ordinance (<i>Roger Mills County Zoning Ordinance 2007.pdf</i>) - The Roger Mills County Zoning Board ran and participated in the public meeting. The Board then sent a recommendation to the County Commissioners who held their own internal hearing to decide whether or not to approve the project. - Invitations were sent by the County and Acciona did not receive copies. The Publishers affidavit receipts for what the county charged Acciona to publish in the paper are attached (<i>Publishing Fee - Roger Mills County Permit.pdf</i>). The direct contacts were letters the county sent to landowners with turbines closer than 300 feet to a property line that informed them of the public meeting.	
Acceptance and Close out by Lead Assessor:	Date: April 15 th , 2009
Reasoning for not acceptance or acceptance and close out: This request for clarification was closed out. Project proponents satisfactorily clarified that Roger Mills County, the department responsible for the stakeholders' consultation, has specific criteria for this type of consultation. The file Roger Mills County Zoning Ordinance 2007 states that "<i>No building (structure) shall be located closer than ten (10) feet to a side lot line, except when abutting dwelling. Then, it shall have a three hundred (300) feet side yard</i>". To this extent, Section 9-4. Procedure for Authorizing Conditional Uses Permitted on Review, further states that the uses shall be reviewed and authorized or rejected under the following procedures: "An application together with a fee of no less than one hundred dollars (\$100.0) shall be filed with the Planning Commission for review. Said application shall show the location and intended use of the site, the names of all the property owners and existing land uses within three hundred (300) feet, and any other materials pertinent to the request which the Planning Commission may require". This, indicates that the main stakeholders to be consulted were the adjacent landowners who were invited to participate in the public hearing of the project. Others were reached out via a published affidavit that Roger Mills County published in the local paper inviting anyone to the public meeting (See Ref. Roger Mills Publishers Affidavit.pdf)	

No.: CL08	Raised by: SGS Validation Assessment Team
Issue: Common Practice Analysis	Reference:
Lead Assessor Comment:	Date: July 8th, 2009
The analysis presented in the PD based its conclusion on the composition of the Southwest Power Pool. Nevertheless, by definition a common practice assessment shall rather analyze the extent to which the proposed project type (e.g. technology or practice) has already diffused in the relevant sector (i.e. electricity sector) and region (i.e. at least the country in question). This said, the mere selection of the grid to which Red Hills is connected (SPP) is inappropriate as it significantly limits the results of a common practice analysis. The fact that "Wind power represents only 1% of total generation capacity" cannot be presented as the sole argument to claim that "wind power is clearly not common practice in the SPP". This percentage needs to be correlated against the potential for wind power generation in the region. In other words, one can argue back that given the conditions of the region; 1 or 2% is about the capacity for wind	

generation for that area and it is not physically possible to go above or beyond that percentage. Evidence needed to be provided to demonstrate that wind power generation could account for a much higher percentage, yet it has not been reached due to unfavourable market conditions.	
Project Participant Response:	Date: July 10, 2009
The attached study shows that SPP has a great potential for wind development, and some of the hurdles to developing it (<i>spp_wind_generation.pdf</i> , see p. 10 and 12)	
All of the existing wind projects were built between 2003 and 2007, the latest being the Sleeping Bear project that is cited in the PD (for a level of PPA pricing that would not make Red Hills economically feasible). These projects were built when the market had different characteristics, but is impossible to pinpoint what made each project economically viable. We can only explore some of the contributing factors. During the period 2002-07, turbine prices increased 55% (see attached <i>2007-10-29_Turbine Prices.pdf</i>). At the same time, power prices have declined. Other factors that may play a role include capital expenditure levels, construction costs, and exchange rates (as turbines/components may come from overseas). The project under construction is 18.9 MW, significantly smaller in scale than Red Hills. The smaller size could be viewed as an advantage to utilities (less disruption based on intermittency) or it may have even applied to be a Qualifying Facility, guaranteeing it a certain rate of return (only facilities under 80MW are eligible).	
Acceptance and Close out by Lead Assessor:	Date: July 15 th , 2009
The discussion related to the common practice were solved after project developers submitted a document that states (ref.20) that the wind power potential for the area is greater than what it is installed at the moment. In fact, the potential for wind generation in the SPP region is estimated to be 90,000 MW, which would far exceed the peak load of 50,000 MW. This is complemented by a report from the DOE that states that Oklahoma has the potential for more than 10,000 MW of wind power. In comparison, the state had only 689 MW of wind power installed at the end of 2007, which is a signal the lack of incentive for renewable energy projects in the State. This was also confirmed while looking at the queue for interconnection (Ref.06 - SPP state of the market.pdf) where is very it can be noticed that the active requests for Oklahoma wind projects in the queue as of November 2008 (to be completed by 2015) total 14,500 MW, but almost 67% of them are still in a very initial stage, which means that they have not been able to complete their feasibility studies.	

No.: CAR09	Raised by: SGS Validation Assessment Team
Issue: Calculation of the emission factor	Reference:
Lead Assessor Comment:	Date: July 8th, 2009
A corrective action request was raised in order to highlight the following: c. Step 3, which describes the calculation of the Operating Margin (OM) emission factor, includes (at the end) some information that rather relates to the build margin. Please note that Option 1 and Option 2, suggested by the tool, in terms of the vintage of data used are applicable to the build margin emission factor. Please clarify why this options were presented under the OM or make reference to the correct section of the tool (p.4), which prescribes the two options for data vintages for the OM. d. Please correct the typographical error on page 30. The PD mentions 5 Steps (4th repeated), however the tool and the description found in the PD includes 6 steps.	
Project Participant Response:	Date: July 10, 2009
Acceptance and Close out by Lead Assessor:	Date: July 15 th , 2009
Reasoning for not acceptance or acceptance and close out: CAR08 was closed out after verifying that the required modifications were included in the latest version of the PD	

No.: CAR10	Raised by: SGS Validation Assessment Team	
Issue: Application of methodology ACM0002		Reference: Validation Protocol B.6
Lead Assessor Comment:		Date: July 8th, 2009
Project developers initially made use of ACM0002 version 7, which was valid from 14 Dec 2007 to 04 Dec 2008. Project proponents were encouraged, via CAR10, to update the PD in order to reflect the most recent version of the methodology as approved by the CDM EB		
Project Participant Response:		Date: July 10, 2009
<i>The methodology has been updated.</i>		
Acceptance and Close out by Lead Assessor:		Date: July 15 th , 2009
Reasoning for not acceptance or acceptance and close out: CAR09 was closed out after verifying that the version of the methodology was updated in the PD and it now makes reference to ACM0002 v.9. More important, it was verified that subsequent versions, approved after version 7, do not entail any changes to Red Hills. In fact, the most significant change was introduced in version 9, which requires monitoring of project emissions, but only to Solar Power plants.		

A.4 Annex 4: Team Members Statements of Competency

Name: Edgar Salinas

SGS Affiliate: Panama

Status

- Product Co-ordinator ☐
- Operations Co-ordinator ☐
- h. Technical Reviewer ☐
- i. Expert ☐

Validation

Verification

- Local Assessor ☒
- j. Lead Assessor ☒
- Assessor ☒
- / Trainee Lead Assessor

Scopes of Expertise

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

Approved Member of Staff by Siddharth Yadav Date: 10.06.2008

Statement of Competence

Name: Mahawar, Abhishek SGS Affiliate: SGS India

Status

- Lead Assessor	☐	- Expert	☐
- Assessor	☒	- Financial Expert	☒
- Local Assessor	☒	- Technical Reviewer	☐

Scopes of Expertise

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

Approved Member of Staff by: Siddharth Yadav Date: 12/11/2009