



**Verified Carbon
Standard**

PRAIRIEWINDS ND1 (PWND1) EMISSIONS REDUCTION PROJECT - VALIDATION AND VERIFICATION REPORT



RUBY CANYON ENVIRONMENTAL

Document Prepared by Ruby Canyon Environmental, Inc.

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Summary:

The Project consists of 77 1.5-megawatt wind-powered turbines and delivers power into the Midwest Reliability Organization (MRO) region as established by the North American Electric Reliability Commission (NERC). The project generates emissions reductions by displacing grid connected electricity. The Project began operations on 30 December 2009, and at the time of its commissioning, was the largest wind project developed, owned, and operated by an electric power cooperative in the United States.

Blue Delta Energy, LLC (Blue Delta) contracted Ruby Canyon Environmental, Inc. (RCE) to complete the validation for the renewal crediting period and verification of the first monitoring period in the renewal crediting period for the PrairieWinds ND1 Emissions Reductions Project (Project). The first crediting period was from 1 January 2010 to 31 December 2020. The project has applied for a second crediting period from 1 January 2021 to 31 December 2030. The first monitoring period in the second crediting period is from 1 January 2021 to 31 December 2021.

The purpose of the validation is to ensure that the baseline scenario is valid, that the Project complies with the VCS Standard, version 4.3 and ACM0002: Large Scale Consolidated Methodology: Grid-connected electricity generation from renewable sources v20.0, that the project plan and GHG calculation methods are materially correct, and that the planned project could reasonably be expected to achieve the claimed emission reductions. The Purpose of the verification is to ensure that the GHG assertion is materially correct, that the data provided to RCE can be documented, and if errors or omissions are detected, they be corrected by Blue Delta.

The Project was assessed against the requirements of ACM0002, the VCS Standard, and the Project Description dated 22 December 2022. As part of the validation and verification activities, RCE reviewed the completeness, conservativeness, and accuracy of the underlying evidence for the Project's assumptions and data sources used.

The scope of the validation and verification includes an assessment of the Project Description (PD) and Monitoring Report (MR), both dated 22 December 2022, and supporting data and documentation against the defined criteria listed below in Section 1.2.

The validation and verification team's method for assessing the project against the above criteria (including the policy, procedures, or requirements used to validate the project description and verify the monitoring report) included creating a validation and verification risk assessment and sampling plan. RCE determined which areas of the project contained the highest risk and focused on reviewing evidence to mitigate these risks. The validation and verification team included a desk review of project information and interviews with key personnel involved in developing the project and carrying out the monitoring and metering.

During the validation and verification process, RCE issued a total of 6 findings which include:

- 1 Corrective Action Request
- 1 Non-material Finding
- 3 Additional Document Requests
- 1 Clarification Request
- 0 Forward Action Request

Based on documentation and explanations provided by the Kenneth Nelson (Project Consultant), RCE closed out all findings in a clear and transparent manner. RCE is reasonably assured that the Project meets all relevant VCS requirements and correctly applies the Methodology. All uncertainties associated with inherent data collection and analysis are properly managed through data controls and quality assurance checks.

RCE states, to a reasonable level of assurance that the Project as described in the Project Description dated 22 December 2022 and the monitoring report dated 22 December 2022 meets all relevant VCS requirements and correctly applies ACM0002.

RCE concludes that that all relevant VCS validation criteria have been satisfied and the Project Activity properly applies the criteria of ACM0002. RCE concludes that the baseline is valid and that the emission reductions attributable to the Project Activity are additional to any emission reductions that would occur in the absence of the Project.

RCE confirms, to a reasonable level of assurance, that the Project's GHG assertion of 124,186 metric tonnes of CO₂ equivalent emissions for the period of 1 January 2021 to 31 December 2021 is fairly stated.

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1 INTRODUCTION

1.1 Objective

The purpose of the validation for the Project's renewal crediting period is to ensure that the baseline scenario is valid, that the Project complies with ACM0002 Large Scale Consolidated Methodology: Grid-connected electricity generation from renewable sources v20.0, that the project plan and GHG calculation methods are materially correct and meet the requirements of the VCS program, and that the planned project could reasonably be expected to achieve the claimed emission reductions.

The purpose of the verification is to ensure that the GHG assertion is materially correct, that the data provided to RCE can be documented and if errors or omissions are detected, they be corrected by Blue Delta.

1.2 Scope and Criteria

This is the validation of the Project's second crediting period from 1 January 2021 to 31 December 2030. The validation scope is defined as an independent and objective review of the estimated net emissions reductions associated with the displacement of fossil fuel generated electricity, including the review of the Project Description (PD) v1.2 dated 22 December 2022. The PD was reviewed against the following criteria:

- Verified Carbon Standard (VCS), v4.3 (Issued 19 September 2019; updated 22 June 2022)
- VCS Validation and Verification Manual version 3.2 (October 19, 2016)
- VCS Methodology ACM0002: Large Scale Consolidated Methodology: Grid-connected electricity generation from renewable sources v20.0
- Validated Project Description (PD), dated 22 December 2022
- ISO 14064-3:2006 "Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions"

This is the verification of the Project's first monitoring period of the second crediting period from 1 January 2021 to 31 December 2021. The verification scope includes the organizational boundaries of one wind project consisting of 77 1.5-megawatt turbines located near Minot, North Dakota. The GHG emission source included is the reduction in CO₂ from the displacement of fossil fuel derived electricity. Per the Methodology there are no project emissions.

RCE conducted the verification based upon the following criteria:

- Verified Carbon Standard (VCS), v4.3 (Issued 19 September 2019; updated 22 June 2022)
- VCS Validation and Verification Manual version 3.2 (October 19, 2016)
- CDM Large-Scale Methodology ACM0002: Large Scale Consolidation Methodology: Grid-connected electricity generation from renewable sources v20.0 (28 November 2019) and all associated CDM tools,

- Validated Project Description (PD), dated 22 December 2022
- ISO 14064-3:2006 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions”
- Additionally, RCE reviewed the Project’s monitoring period-specific Monitoring Report v1.3 dated 22 December 2022, including the monitoring plan, during verification activities.

1.3 Level of Assurance

RCE conducted the validation and verification to a reasonable level of assurance.

The VCS Standard defines materiality as errors, omissions, or discrepancies resulting in misstatement of greater than five percent of the Project’s GHG assertion. Additionally, RCE considered qualitative non-conformances with criteria requirements as material during the validation and verification process.

1.4 Summary Description of the Project

The project wind turbines are located near Minot, North Dakota. The project activity consists of generating zero-emission electricity, thus displacing the use of fossil fuel derived electricity, which otherwise would have been emitted into the atmosphere. This project activity reduces greenhouse gas (GHG) emissions by displacing fossil fuel derived electricity generation to the grid.

2 VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

RCE used a risk-based assessment approach to develop the validation plan and sampling plan and to assess the Project against the criteria defined in Section 1.2 above.

The validation and verification process and sampling plan involved the following independent and objective activities:

- Select a validation/verification team;
- Perform a Conflict-of-Interest Assessment;
- Conduct a kick-off meeting with Blue Delta;
- Review the PD;
- Develop a validation and verification plan and risk-based sampling plan;
- Review the validity of the original baseline scenario;
- Review the accuracy of the emission reduction projections for the crediting period;
- Review whether project activities are subject to regulatory compliance;

- Confirm project ownership is accurately described in the PD;
- Confirm the application of the most recent version of the Methodology ACM0002: Large Scale Consolidation Methodology: Grid-connected electricity generation from renewable sources v20.0;
- Review the monitoring plan contained in the PD;
- Review the Monitoring Report for this monitoring period;
- Review the project information control systems and quality control procedures;
- Review the Project's emission reduction calculations;
- Issue corrective action requests (CARs), nonmaterial findings (NMFs), additional documentation requests (ADRs), and clarification requests (CRs), as necessary.
- Conduct an independent review;
- Issue a joint validation/verification report and representation; and
- Conduct an exit meeting with Blue Delta.

The validation/verification team was selected according to RCE's GHG Verification Policies & Procedures to ensure team members are qualified to perform validation/verification activities pertaining to the Project. The validation/verification team consisted of the following individuals:

Lead Validator/Verifier: Jessica Stavole

Independent Reviewer: Nina Pinette

Team Members: Garrett Heidrick and Miguel Freyermuth

Prior to validation/verification project activities, RCE performed a Conflict-of-Interest Assessment to determine whether any potential conflicts exist with the project proponent and other entities involved in the Project. No issues were discovered that would affect the impartiality or independence of the validation/verification team.

A validation/verification kick-off conference call was held with Blue Delta on 13 October 2022. The purpose of the kick-off conference calls was to introduce the Blue Delta personnel and the RCE validation/verification team, review the validation/verification objectives, process, and VCS requirements, and to confirm the schedule.

RCE reviewed the PD and the Project Monitoring Report (MR) and developed a validation/verification plan and sampling plan that were used throughout the validation/verification of the Project. A risk-assessment was performed based upon the criteria listed above and evidence provided to RCE by Blue Delta that pertained to the current crediting/monitoring period. The validation/verification team confirmed that the Project met the additionality requirements listed in ACM0002.

RCE re-calculated all emissions reductions based on raw data outputs from the United States Energy Information Administration (EIA) 923 and 860 databases and Blue Delta's database of MWhs produced. RCE confirmed that all default emission factors were correct (as opposed to sampling). RCE performed a census of this data as they are considered to be medium-high risk.

The sampling plan reviewed calibrations for monitoring equipment and Blue Delta generation data. These items were considered to be low-medium risk as the generation data is tracked by multiple entities.

The verification plan was used throughout the verification process as a basis for assessing the completeness, consistency, accuracy, and transparency of the Project's GHG emission reductions.

Information in the PD was the primary focus of the validation and sampling plan while the monitoring report was reviewed for the verification. RCE reviewed the PD/MR for completeness and accuracy and used the PD/MR to determine other relevant documents to review and personnel to interview. RCE developed a sampling plan checklist based on the requirements of the VCS Standard.

The Lead Verifier interviewed key personnel, reviewed GHG sources, sinks and reservoirs (SSRs), and discussed relevant monitoring and metering equipment over a phone call with the Project Consultant. Following its initial review of all Project documents, RCE delivered a List of Findings to Blue Delta with findings that included CARs, NMFs, ADRs, and CRs. Blue Delta provided responses to all identified issues.

Following the close-out of all open items, RCE completed a joint validation/verification report, and submitted the validation/verification for independent review.

2.2 Document Review

The validation/verification activities relied heavily on document review. RCE reviewed several versions of the PD and MR and audited underlying evidence, data, records, and supporting documents. RCE cross-checked and compared these documents to the VCS program requirements and communicated any deficiencies to Blue Delta (communicated via the List of Findings). The documents reviewed are listed in Appendix A.

2.3 Interviews

RCE held numerous discussions with the following personnel throughout the verification process:

- Kenneth Nelson, Project Consultant and authorized representative of Basin Electric Power Cooperative, Blue Delta Energy, LLC, President

The interview process consisted of multiple Microsoft Teams meetings where Ken and RCE were able to screen share documentation and review calculation methodologies.

Topics discussed included:

- Blue Delta's EIA data compilation process;
- Blue Delta's process for compiling the PD to meet the VCS Methodology ACM0002;
- Process for determining that the project was not legally mandated;
- Methods for including relevant SSRs in the Project boundary;
- Ownership structure of the Project;
- Review of documents provided in support of the PD;
- Construction of the project;
- Start date;
- Methods for data collection;
- Relevant Project permits;
- How MWh generation is tracked;
- Installation and operation of equipment; and
- QA/QC procedures for equipment

2.4 Site Inspections

Not applicable to this monitoring period, and the risk is low that the project activity would not be operating according to the MD and PD.

2.5 Resolution of Findings

RCE used its List of Findings to request CARs, NMFs, ADRs, and CRs during the validation/verification process. Blue Delta responded to all requests, which were subsequently closed out.

During the verification/validation process, RCE issued a total of 6 findings which include:

- 1 Corrective Action Requests
- 1 Non-Material Finding
- 3 Additional Document Requests
- 1 Clarification Requests
- 0 Forward Action Requests

The resolution of findings is summarized in the table found in Appendix B to this report.

2.5.1 Forward Action Requests

There were no Forward Action Requests during this monitoring period.

3 VALIDATION FINDINGS

3.1 Project Details

The project is a stand-alone project under the Sectoral Scope 1 Energy Industries (renewable/non-renewable sources) that includes a single project activity: generating fossil fuel free electricity and displacing fossil fuel derived electricity from the grid.

Blue Delta established a set of criteria (conditions listed in ACM0002) and sufficiently demonstrated the baseline scenario and additionality for the initial project activity in the PD. Blue Delta provided evidence to RCE that demonstrated the baseline scenario and additionality. The Project Proponent has monitoring and metering in place to collect data from all project activities. This data is stored in Blue Delta's company database that is backed up on a regular basis. RCE reviewed this data management system and confirmed that it was complete, rigorous, and contained all necessary information to assess the accuracy of the emission reduction claims.

The project is eligible under ACM0002 because it is a wind turbine facility that generates grid-connected electricity from renewable sources. Prior to the project initiation, grid-supplied electricity would have come from fossil fuel combusting power plants. There was no renewable energy generation at this site prior to the Project activities.

According to the methodology, the baseline is the electricity delivered to the grid by the project activity that would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources. This baseline was validated in the original validation/verification cycle and was reassessed using CDM Methodological Tool 11 v3.0.1. Section 3.4.4 details the results of this assessment. Section 3.4.2 Applicability describes in detail how the project activity meets the methodology eligibility criteria.

Full assessment of additionality is not required for the renewal of the project crediting period; however, regulatory surplus needs to be demonstrated (see Section 3.4.5).

The Project Proponent is Basin Electric Power Cooperative (BEPC) represented by Rebecca Kern as the Vice President of Resource Planning and Rates. Blue Delta Energy, LLC is the consultant of the project and is represented by Kenneth Nelson as the President of the company. RCE confirmed both of these parties' competencies throughout the validation and verification and confirmed that they hold sufficient knowledge and experience for completing required documentation.

BEPC retains ownership by virtue of owning the equipment and process that generates emission reductions. RCE reviewed the Article of Merger between BEPC (Project Proponent) and PrairieWinds ND1, Inc. (PWND1), which stipulates that BEPC now owns PWND1 and is the sole owner of all Environmental Credits generated at the wind farm.

The project start date is 30 December 2009, which is when the construction and testing was completed. This is the second crediting period for the project from 1 January 2021 to 31 December 2030 for a total of ten years. The project's size category is "Project" and will generate less than 300,000 tonnes of CO₂e per year. The estimated emission reductions are 1,377,063 tonnes of CO₂e over the life of the second crediting period. The project is located in the U.S. near Minot, North Dakota. The project location is marked with geodetic coordinates in the PD and MR.

The project complies with applicable laws, statutes, and other regulatory frameworks. The project has not been registered nor is seeking registration under any other GHG program. The project also has not been rejected by another GHG program. The project location is not in a jurisdiction under an emissions trading program or that have binding limits. The Project is not seeking any other form of environmental credits, other than RECs.

The Project is currently listed in the Midwest Renewable Energy Tracking System (M-RETS), which records the generated MWh and associated RECs. At the time of verification, the remaining RECs equivalent to the quantity of electric generation claimed for this monitoring period, 332,941 MWh, had not been retired. To prevent double counting, RECs need to be retired before VCU's can be issued. Blue Delta acknowledged that this was the intent for the Project.

The Project Proponent stated that the project does not contribute to any sustainable development goals.

According to ACM0002, no sources of leakage have been identified for this project activity.

RCE concludes that the Project description included in the PD is accurate, complete, and provides an understanding of the nature of the Project. The Project has been implemented as described in the PD.

3.2 Participation under Other GHG Programs

The Project does not participate under other GHG programs.

3.3 Safeguards

3.3.1 No Net Harm

The project proponent identified one potential negative impact: avian mortality. BEPC is committed to reducing the impact that the project may have on avian mortality. During various instances, BEPC shut down the project due to whooping cranes in the project area. BEPC also trains their employees – and any contractor scheduled to be onsite during migration – twice a year on the migration patterns of whooping cranes, how to spot a whooping crane, and how to protect them from wind turbines. BEPC has also conducted an extensive Environmental Impact Assessment (Section 3.3.3) and purchased \$1.5 million dollars in conservation offsets. RCE concludes that BEPC has taken reasonable steps to mitigate any negative impact at the project location.

The project does not have, or is unaware of, any negative socio-economic impacts. The project has provided a net-benefit to the local, surrounding communities both economically and socially. During the construction phase of the project, many roadways were improved, and the project pays taxes to Ward County and wind lease payments to local landowners.

3.3.2 Local Stakeholder Consultation

There were three primary categories of local stakeholders: government, local landowners, and first responders. While there was extensive stakeholder engagement during the initial permitting

phase of the project, now communications are limited to when issues arise. BEPC maintains the following policies:

- Prairiewinds ND1, like all wind projects, is subject to certain local, state, and federal oversight and has staff that is responsible for all ongoing reporting requirements as well as any ad hoc requests. Many of these reports are in the public domain (e.g. the Energy Information Association (EIA) publishes annual generation data from the facility).
- During the permitting and construction phase there were regularly scheduled meetings with the public. Beginning with the project's commencement of commercial operations there are no formally scheduled meetings, and issues are addressed as they arise. At this time BEPC is unaware of any pending land-owner issues, though when BEPC is notified of a stakeholder concern they have procedures in place to direct the concern to the appropriate department, such as the Plant Operations, Right of Way, or Legal team.
- Regarding first responders, BEPC holds annual emergency response meetings on the wind farm site, where the safety coordinator invites all local public officials including the Sheriff's Department, Fire Department, ambulance services, emergency dispatch center, and emergency management coordinator.

The Project continues to receive positive feedback and local support. There have been no stakeholder requests to modify the project. RCE assures that the Project Proponent has taken due account of all and any input.

3.3.3 Environmental Impact

The project required an environmental impact assessment. The assessment was conducted and reviewed during the initial validation/verification process and remains the same for the second crediting period. Due to the project being built on Bureau of Land Management (BLM) land, it triggered a National Environmental Policy Act (NEPA) provision. The impact of the NEPA provision was extensive both temporally and financially, costing the project 30 months of permitting and \$1.5 million for conservation offsets. This does not include the time and financial resources utilized for engineering and consulting expertise to perform the various studies and prepare the necessary documents.

The Environmental Assessment process for PrairieWinds ND1 is described in the PD, Section 2.3, and below:

- Public Participation (Scoping Meetings and Stakeholder comments)
 - Publishing of a draft Environmental Assessment (EA) and a public comment period, with BEPC agreeing to undertake various mitigation measures
- Impact Assessments
 - Land use changes – temporary disturbances were identified that BEPC would then remediate as needed
 - Wetlands / floodplains
 - Historic Properties
 - Endangered Species

- Whooping Cranes were identified as potentially threatened. BEPC and the U.S. Fish and Wildlife Administration agreed for BEPC to pay \$1.5 million towards conservation easements to protect threatened habitat.
 - Fish and Wildlife Resources – some vegetation would be disturbed
 - Soils
 - Air Quality
 - Water Quality
 - Radio and TV Interferences
 - Human Health and Safety
 - Social and Economic Conditions
 - Minority and Low Impact Populations

3.3.4 Public Comments

The project received comments during the public comment period during the initial validation/verification. Because this project utilized a Rural Utility Service (RUS) loan, it was required to have a comprehensive public commenting period where the public and federal, state, and local agencies were all allowed to comment.

The RUS “Finding of No Significant Impact” report summarized the public commenting process as follows:

RUS published a Notice of Intent (NOI) to conduct a public scoping meeting and prepare an Environmental Assessment in the Federal Register on March 20, 2008. The notice included a 30-day public comment period from the scoping meeting date of April 3, 2008. A copy of the Alternative Evaluation and Site Selection Study was sent to the Minot Public Library on March 11, 2008 requesting that it be made available for public review until May 3, 2008. Public notification for the scoping meeting appeared as a legal notice in the Minot Daily News on Sunday, March 23, 2008. Separate advertisements were also run on March 23 and April 2, 2008 in the same newspaper. Approximately 70 people attended the scoping meeting in Minot. In addition, comments, concerns, and information were solicited from Federal, State, and local agencies. All comments and concerns were addressed in the Environmental Assessment.

The availability of the Environmental Assessment was announced in the June 24, 2009 Federal Register and in the Minot Daily News. The Environmental Assessment was made available for review at Basin Electric’s Headquarters, RUS’ Headquarters and at the Minot Public Library. It was also available for review on the RUS’ website. Comment letters were received from the U.S. Fish and Wildlife Service and the U.S. Environmental Protection Agency. Comments from both agencies have been adequately addressed.

No other potential impacts resulting from the project have been identified. Therefore, RUS has determined that this finding of no significant impact fulfills its obligations under the National Environmental Policy Act, as amended (42 §§U.S.C. 4321 et seq.), the Council of Environmental Quality Regulations (40 CFR §§1500-1508), and RUS’s Environmental Policies and Procedures (7 CFR Part 1794) for its action related to the project.

3.3.5 AFOLU-Specific Safeguards

This is a non-AFOLU project, and this section is not required.

3.4 Application of Methodology

3.4.1 Title and Reference

The project follows the VCS Standard version 4.3 and uses the following methodology: ACM0002 Large Scale Consolidation Methodology: Grid-connected electricity generation from renewable sources v20.0. The project utilized two CDM tools; TOOL07: Tool to calculate the emission factor for an electricity system v7 and TOOL11: Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period v3.0.1.

3.4.2 Applicability

This is the validation of the project's second crediting period. The Project Proponent and Project Consultant justified meeting each applicability condition of the chosen methodology through provided documentation. RCE confirmed that ACM0002 is applicable to this project and reviewed applicability conditions listed in ACM0002 Section 2.2. Specifically:

1. Section (2.2)(3)(a): This project is a grid-connected renewable energy power generation project activity that was installed on a Greenfield power plant.
2. Section (2.2)(4)(a): The project activity includes a renewable energy power plant this a wind power plant/unit.
3. Section (2.2)(5-6): Are not applicable to this project.
4. Section (2.2)(7)(a-b): This project did not switch from fossil fuels to renewable energy sources, and it is not a biomass fired power plant/unit.
5. Section (2.2)(8): Not applicable to this project.

3.4.3 Project Boundary

RCE reviewed the methodology, and Blue Delta provided a list of SSRs included in the GHG project boundary:

Source: CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity

Sinks: Not applicable according to the methodology.

Reservoirs: Not applicable according to the methodology.

RCE review the Project Description, Monitoring report, and calculations spreadsheet to confirm inclusion of all SSRs.

The Lead Verifier interviewed site personnel and confirmed that the PD lists all relevant SSRs. The selected SSRs correspond with those identified in the applied methodology. RCE confirmed that all relevant SSRs were selected in included in the Project boundary and are described in the PD.

3.4.4 Baseline Scenario

The original approved baseline scenario is as follows, “Electricity delivered to the grid by the project activity would have otherwise been generated by the operation of grid-connected power plants and by the addition of new generation sources, as reflected in the combined margin (CM) calculations described in the Tool to calculate the emission factor for an electricity system.”

Blue Delta assessed the validity of the original baseline scenario for the renewal of the Project crediting period using CDM Methodological Tool 11 v3.0.1. The results were as follows:

- Step 1.1: The current baseline complies with all local, state, and federal laws. There are no laws in North Dakota or the United States that mandate the construction of wind farms.
- Step 1.2: There have been no changes to the circumstances of the project.
- Step 1.3: Not applicable as the project activity is considered baseline grid activity and not a continuation.
- Step 1.4: All data and parameters are valid, updated, and have been verified.

RCE researched wind farms or wind turbines and could not find any relevant national and/or sectoral policies that would mandate the project activity.

Blue Delta correctly identified the baseline scenario, and the scenario reasonably represents what would have occurred in the absence of the project. The identified baseline scenario is justified and is an accurate and reasonable assessment of pre-project conditions. The project description describes how the baseline scenario is relevant through documentary evidence and considers relevant sectoral policies and circumstances when proving that the project activity is additional. RCE confirmed that the identification of the baseline scenario is justified appropriately, supported by evidence, and can be deemed reasonable.

3.4.5 Additionality

Per Section 3.8.9 of the VCS Standard, a full reassessment of additionality is not required. However, the project is not, nor has it ever been, required to operate under any local, state, or federal laws or policies. It is also not being used for compliance for any law in North Dakota or the US. The project is voluntary.

Based on the evidence provided, RCE concludes that the Project’s regulatory surplus and the validity of the original baseline scenario was appropriately demonstrated.

3.4.6 Quantification of GHG Emission Reductions and Removals

RCE assessed the methods to calculate emission reductions presented in the PD. RCE confirmed the equations and parameters are consistent with the ACM0002 Methodology and associated methodology tools. RCE recalculated the emissions using equations 11 and 12 of ACM0002 and compared results to Blue Delta’s to confirm baseline emissions. First, RCE downloaded EIA 923 and 860 data for years 2018, 2019, and 2020. RCE compiled these data sets and filtered the data for the correct eGRID subregion (MRO) and corresponding states. Second, once the filters were applied, RCE calculated the Low-Cost, Must-Run Unit Generation percentages, the Operating Margin, and the Build Margin.

The Operating Margin sums the total power produced for MRO and divides it by the total GHG emissions associated with that power production to generate an emissions intensity value in tonnes CO₂ per MWh. This calculation is completed for all three years and then averaged.

The Build Margin sums the total power produced for all MRO generators that were constructed post 1 December 2016 to 2020. The total sum of power produced is multiplied by the Build Margins 20% threshold. This value is then divided by the total GHG emissions generated by all units constructed post 1 December 2016 to 2020 to generate the Build Margin given in tonnes CO₂ per MWh.

The Operating Margin and the Build Margin are then used to generate the Combined Margin. In this calculation the Operating Margin is multiplied by a weighting factor of 0.75 and the Build Margin is multiplied by a weighting factor of 0.25. The final values from these calculations are summed together to generate the final Combined Margin given in tonnes CO₂ per MWh.

The Combined Margin value is used to generate emissions reductions by multiplying the total MWh generated by the project by the Combined Margin value.

Leakage emissions and project emissions are not applicable for this project type according to the methodology.

RCE identified only one non-material error regarding the emissions associated with one facility in the EIA 923 database. However, this non-material error is extremely small, and the risk of a material misstatement is extremely low. RCE used the following source data:

- EIA 860 generator data for 2018, 2019, and 2020.
- EIA 923 data for 2020
- EIA emission factors

RCE concludes that Blue Delta has correctly applied the methodology to calculate baseline emissions (ACM0002 does not include leakage or project emissions for renewable energy sources). Blue Delta included all relevant assumptions and data in the PD including references and sources. RCE confirms that these data are reasonable in the context of the project and that it is possible to replicate the estimate of baseline emissions based on the information provided in the PD.

RCE's final re-calculation of net GHG emission reductions and removals during the project monitoring period are within the materiality threshold of Blue Delta's assertion. All relevant assumptions and data are listed in the PD (including references and sources where necessary), these data are reasonable in the context of the project and RCE replicated the baseline emissions using these data and parameters.

3.4.7 Methodology Deviations

There were no deviations applied to the current monitoring period.

3.4.8 Monitoring Plan

RCE confirmed the suitability of the implemented monitoring system by reviewing data collected as inputs into all methodology equations. Monitored parameters are obtained from SCADA

systems that store generation data and compile the data to a central database. RCE reviewed calibrations for meters that measure power generation and to ensure the equipment is appropriately maintained and measuring data accurately. RCE reviewed this information and found the implemented monitoring system to be suitable and concluded that data monitored is robust and accurate for the purposes of calculating emission reductions.

RCE concludes the monitoring plan adheres to all requirements of the Methodology. The tables below contain the data and parameters that are monitored and/or measured during the project crediting period and monitoring period.

DATA AND PARAMETERS AVAILABLE AT VALIDATION

Data / Parameter	EF _{grid,OMsimple,y}
Data unit	Metric tonnes / MWh
Description	Simple Operating Margin CO2 emissions factor in year y.
Source of data	EIA 860 – unit level equipment data of US power plants EIA 923 - plant/prime mover operating data of US power plants EIA fuel emissions factors – CO2 intensity factor per fuel code
Value applied	0.4763
Justification of choice of data or description of measurement methods and procedures applied	The US Energy Information Administration is the most comprehensive source of data for all aspects of the US power grid. All generators with a capacity of 1 MW or greater are required by law to register file their annual operating data.
Purpose of Data	Calculation of baseline emissions
Comments	The ex-ante option is chosen

Data / Parameter	EG _{m,y}
Data unit	MWh
Description	Net quantity of electricity generated by power unit m in year y (m includes all power units except low cost must run power units)
Source of data	EIA 923 - plant/prime mover operating data of US power plants
Value applied	Varies by unit by year
Justification of choice of data or description of measurement methods and procedures applied	The US Energy Information Administration is the most comprehensive source of data for all aspects of the US power grid. All generators with a capacity of 1 MW or greater are required by law to register file their annual operating data.

Purpose of Data	Calculation of baseline emissions
Comments	
Data / Parameter	$EF_{EL,m,y}$
Data unit	Metric tonnes / MWh
Description	CO2 emissions factor of power unit m in year y
Source of data	EIA 923 - plant/prime mover operating data of US power plants EIA fuel emissions factors – CO2 intensity factor per fuel code
Value applied	Varies by unit
Justification of choice of data or description of measurement methods and procedures applied	EIA 923 - plant/prime mover operating data of US power plants EPA eGRID 2020 Dataset – derived from EIA 860 and EIA 923 EIA fuel emissions factors – CO2 intensity factor per fuel code
Purpose of Data	Calculation of baseline emissions
Comments	
Data / Parameter	$FC_{i,m,y} \times NCV_{i,y}$
Data unit	MMBtu
Description	Quantity of fossil fuel type i in year y
Source of data	EIA 923 - plant/prime mover operating data of US power plants
Value applied	Varies by unit
Justification of choice of data or description of measurement methods and procedures applied	The US Energy Information Administration is the most comprehensive source of data for all aspects of the US power grid. All generators with a capacity of 1 MW or greater are required by law to register file their annual operating data.
Purpose of Data	Calculation of baseline emissions
Comments	Note that the EIA 923 data set is based on measured heat content of fuel used (MMBtus) rather than mass or volume and represents the product of the two parameters.

Data / Parameter	EF _{CO2,i,y}
Data unit	kg CO2e/MMBtu
Description	CO2 emissions factor of fossil fuel type <i>i</i> in year <i>y</i>
Source of data	EIA fuel emissions factors – CO2 intensity factor per fuel code
Value applied	Varies by fuel type
Justification of choice of data or description of measurement methods and procedures applied	The US Energy Information Administration is the most comprehensive source of data for all aspects of the US power grid. The EIA fuel emissions factors are assigned to the fuel codes used in the EIA 923 reports.
Purpose of Data	Calculation of baseline emissions
Comments	

Data / Parameter	EF _{grid,BM,y}
Data unit	Metric tonnes / MWh
Description	Build Margin CO2 emissions factor in year <i>y</i>
Source of data	EIA 860 – unit level equipment data of US power plants EIA 923 - plant/prime mover operating data of US power plants EPA eGRID 2020 Dataset – derived from EIA 860 and EIA 923 EIA fuel emissions factors – CO2 intensity factor per fuel code
Value applied	0.0630
Justification of choice of data or description of measurement methods and procedures applied	The US Energy Information Administration is the most comprehensive source of data for all aspects of the US power grid. All generators with a capacity of 1 MW or greater are required by law to register file their annual operating data.
Purpose of Data	Calculation of baseline emissions
Comments	
Data / Parameter	EG _{m, y}
Data unit	Metric tonnes / MWh
Description	Net quantity of electricity generated and delivered to the grid by power unit <i>m</i> in year <i>y</i>

Source of data	EIA 923 - plant/prime mover operating data of US power plants
Value applied	Varies by unit
Justification of choice of data or description of measurement methods and procedures applied	The US Energy Information Administration is the most comprehensive source of data for all aspects of the US power grid. All generators with a capacity of 1 MW or greater are required by law to register file their annual operating data.
Purpose of Data	Calculation of baseline emissions
Comments	

Data / Parameter	EF _{EL,m, y}
Data unit	Metric tonnes / MWh
Description	Emissions factor of power unit m in year y
Source of data	EIA 923 - plant/prime mover operating data of US power plants EPA eGRID 2020 Dataset – derived from EIA 860 and EIA 923 EIA fuel emissions factors – CO2 intensity factor per fuel code
Value applied	Varies by unit
Justification of choice of data or description of measurement methods and procedures applied	The US Energy Information Administration is the most comprehensive source of data for all aspects of the US power grid. All generators with a capacity of 1 MW or greater are required by law to register file their annual operating data.
Purpose of Data	Calculation of baseline emissions
Comments	The ex-ante option is chosen

Data / Parameter	Combined Margin $EF_{grid,CM,y}$
Data unit	Metric tons / MWh
Description	The Combined Margin representing the CO ₂ emissions factor for the grid power displaced due to the project activity, during the year y in metric tons CO ₂ /MWh.
Source of data	Calculated based on tool for calculating emissions intensity of the relevant electric grid; Sources include EIA 923, EIA860, and EPA eGRID databases as well as EIA fuel emissions factors
Value applied	0.3730 t/MWh
Justification of choice of data or description of measurement methods and procedures applied	$w1 * \text{Simple OM} + w2 * \text{Build Margin}$, where: $w1 = 0.75$ $w2 = 0.25$ - Simple OM = 0.4763 - Build Margin = 0.0630.
Purpose of Data	Calculation of baseline emissions
Comments	The ex-ante option is chosen

DATA AND PARAMETERS MONITORED

Data / Parameter	EG _{facility,y}
Data unit	MWhs
Description	Quantity of net electricity generation supplied by the project plant to the grid in year y (MWh/yr)
Source of data	Schweitzer Engineering Laboratories SEL-734 revenue grade meter
Description of measurement methods and procedures to be applied	The SEL-734 revenue grade meters records power generated on a continuous basis. Production is then aggregated using hourly intervals such that the 8760 hourly production is available for each year. Data monitoring and recording (via RECs) takes place monthly, when Basin-QRE reads the meters and submits data to the Midwest Renewable Energy Tracking System (MRETS).

	The monthly REC data from MRETS is used to calculate the emissions reductions.
Frequency of monitoring/recording	Data Recording: Continuous Data Aggregation: Hourly Data Monitoring: Monthly
Value applied	The actual unit generation recorded on an annual basis. For 2020: 283,932 MWhs
Monitoring equipment	The project operator has installed a Schweitzer Engineering Laboratories SEL-734 revenue grade meter (Serial No. 2009093450) metering device.
QA/QC procedures to be applied	Per the Interconnection Agreement, the meter is to be calibrated at a minimum of every three years. This meter was last tested on 9/17/2020. The project operator will provide a report detailing the calibration activities.
Purpose of data	Calculation of baseline emissions
Calculation method	
Comments	

3.5 Non-Permanence Risk Analysis

The section is not applicable for this Project type.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The Project's start date is 30 December 2009, and the first crediting period was ten years from 1 January 2010 to 31 December 2020. The second crediting period is ten years from 1 January 2021 to 31 December 2030. RCE is verifying the monitoring period of 1 January 2021 to 31 December 2021, which is within the second crediting period. There were no material discrepancies between project implementation and the Project Description during this monitoring period.

Blue Delta implemented the monitoring plan described in the PD during the monitoring period. The Project Proponent and Project Consultant obtained, recorded, and compiled all required monitored data and parameters according to the schedule described in the monitoring plan. There were no data gaps or missing data during the monitoring period. There were no material

discrepancies between the monitoring system and the monitoring plan described in the PD or between ACM0002.

The Project has not participated in nor been rejected by any other GHG programs. The Project is not included in an emissions trading program or any other mechanism that includes GHG allowance trading. RCE found no evidence that the Project has received or sought any other form of environmental credit, and it has not become eligible to do so within the time frame of the monitoring period, except for RECs as discussed in more detail in Section 3.1 of this report.

RCE confirmed that the project does not contribute to any sustainable development goals.

For this monitoring period, CO₂ was displaced by the production of renewable grid-based electricity that displaces the need for fossil fuel derived electricity. The Project relies on data compiled by the EIA and data from metering equipment at the wind farm, which is then compiled in Blue Delta's data management system.

Project data for this monitoring period includes total MWh generated by the wind turbines and generation and emissions data supplied by the EIA 860 and 923 databases. RCE observed no discrepancies between the monitoring system operations and Project Description or the Monitoring Plan.

RCE verified that the Project has been implemented as described in the Project Description and confirmed that the Project meets the requirements of the VCS Standard.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

The Project Consultant calculates the Project's emissions reductions in accordance with the equations described in ACM0002 and the Project Description. RCE sampled the Project's raw data collected from meters at the wind farm to ensure the accuracy of reported data and to ensure that there were no material errors in the calculations.

RCE reviewed Blue Delta's GHG assertion spreadsheet to ensure the accuracy of the formulas, emission factors applied, and functionality of the spreadsheet. Blue Delta applied the correct default values from the Project Description to the equations in the assertion spreadsheet and RCE confirmed there were no transcription or transposition errors by manually re-calculating the total emission reductions and comparing these values to Blue Delta's assertion and monitoring report. There is a low risk of manual transposition errors as all project data is automatically recorded by a data acquisition and handling system. RCE found the GHG emissions reductions calculations to be in conformance with ACM0002, the Project Description, and free of material misstatement.

Baseline emissions are calculated by determining the Combined Margin and multiplying the Combined Margin by total MWh generated in 2021. RCE reviewed the baseline emissions calculations for 2021.

Project emissions are not applicable to this methodology and project type.

RCE concludes the Project GHG emissions reductions and removals have been quantified correctly in accordance with ACM0002, the Project Description, and the monitoring plan.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The Project Proponent and Project Consultant provided adequate documentation for the emissions reductions calculations as well as its information control systems and data management processes. RCE reviewed the Project's Monitoring Report, applicable measured data, and all emission reduction calculations.

As described in section 4.1, RCE performed recalculations of emissions reductions from raw data, checked all functionality of the Project spreadsheets. RCE found the information provided to be transparently documented and in accordance with the Project Description and requirements of ACM0002.

RCE interviewed Blue Delta staff members and reviewed data collection processes and operational systems used to collect and report data. RCE found the systems employed resulted in adequate data collection and presentation with reliable controls. Quality assurance activities are present through data review techniques conducted by Blue Delta personnel. RCE confirmed the Project's management and staff to be highly qualified and competent and determined that the GHG management system is sufficient to generate accurate and reliable data.

RCE concludes the Project data used to determine the GHG reductions to be of sufficient quantity and appropriateness of quality in all instances.

5 VALIDATION AND VERIFICATION CONCLUSION

The scope of the validation and verification included the Project activity carried out at the wind farm located near Minot, North Dakota that reduces GHG emissions compared to the baseline.

The goal of the project validation is to ensure that the project plan and GHG calculation methods are materially correct and meet the methodology requirements. The project meets the eligibility requirements of the VCS program and ACM0002, and the project could reasonably be expected to achieve the claimed emission reductions.

RCE confirms that the validation was performed in accordance with the VCS Program Guide, Version 4.2 and VCS Standard, Version 4.3 in addition to ACM0002 Large Scale Consolidated Methodology: Grid-connected electricity generation from renewable sources v20.0 with no qualifications or limitations. The Project Activity will result in a reduction of GHG emissions through the displacement of fossil fuel derived electricity. Blue Delta provided the verification team with data that is relevant, complete, consistent, accurate, transparent, and conservative.

Upon completion of the crediting period validation process RCE concludes that all relevant VCS validation criteria have been satisfied and the Project Activity properly applies the criteria of ACM0002. RCE concludes that the baseline is valid and that the emission reductions attributable to the Project Activity are additional to any emission reductions that would occur in the absence of the Project.

All CARs, NMFs, ADRs, and CRs raised by RCE have been satisfactorily resolved by the Project Proponent. The ex-ante emission reductions from the Project Activity are estimated to be 1,377,063 tonnes of CO₂e over a ten-year crediting period from 1 January 2021 to 31 December 2030, resulting in an average of 137,744 tonnes of CO₂e annually throughout the crediting period. RCE considers it likely that the estimated quantity of emission reductions may be achieved by the Project Activity should operational conditions remain the same.

The goal of the verification is to ensure that the GHG assertion is materially correct, that the data provided to RCE can be documented and if errors or omissions are detected, they be corrected by the Project Proponent and Project Consultant. The data and information supporting the GHG assertion were historical in nature.

RCE conducted a risk-based analysis of the PrairieWinds ND1 (PWND1) Emissions Reduction Project including a strategic review of the Project data, documentation, and emissions reductions calculations. RCE concludes to a reasonable level of assurance that the GHG assertion is free of material misstatement. The emissions reductions resulting from the displacement of fossil fuel derived electricity for the monitoring period 1 January 2021 to 31 December 2021 can be considered in conformance with the following criteria:

- VCS Standard version 4.3 (22 June 2022);
- ACM0002 Methodology for Grid-connected electricity generation from renewable sources;
- Validated VCS Project Description, 22 December 2022; and
- ISO 14064-3:2006 “Greenhouse gases – Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions”

Verification period: From 1-January-2021 to 31-December-2021

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)
2021	124,186	N/A	N/A	124,186

Lead Validator/Verifier Signature

A handwritten signature in black ink that reads 'Jessica Stavole' in a cursive script.

Jessica Stavole

Environmental Scientist

Independent Reviewer Signature

A handwritten signature in black ink that reads 'Nina Pinette' in a cursive script.

Nina Pinette

Environmental Scientist

APPENDIX A: DOCUMENTS REVIEWED

1. Prairiewinds 2021 VCS Monitoring Report - version 1.3
2. Prairiewinds VCS Project-Description v1.2 (Renewal)
3. All relevant calibration documentation
 - a. PrairieWinds ND1 2020 - meter test
4. Raw data files
 - a. PrairieWinds ND1 Jan-Dec 2021 RECs
 - b. PW ND 2021 Hourly MV90 data
5. EIA 923 and 860 files
6. Baseline emissions calculations
7. All relevant ownership documentation
 - a. 20221221 - CPL - Attestation - 2021 Prairiewinds ND Environmental Attributes
 - b. MTI PPA
 - c. Power Purchase Agreement PWSD with Basin Electric
 - d. PWND - Basin - Articles and Merger
 - e. PWSD - Basin - Agreement and Plan of Merger
 - f. SD Wind Partners PPA Executed
8. All relevant tools and methodologies
 - a. ACM0002
 - b. am-tool-11-v3.0.1
9. Permission to Operate
10. Signed and Dated Commissioning Reports

APPENDIX B: RESOLUTION OF VALIDATION & VERIFICATION FINDINGS

Corrective Action Request (CAR), Non-Material Finding (NMF), Additional Documentation Request (ADR), or Clarification Request (CR) #	Finding and Date	Project Developer Response and Date	RCE response and Date	Additional Project Developer Response and Date	Additional RCE Response and Date	Open or Closed
CAR 1	12/22/2022: Please review your Build Margin calculations for Wisconsin Power & Light Co. (Plant Code 64020). "Plant Level Fuel Use" column CP is referencing "Net Generation" column CJ. This formula does not match other formulas found in the same column (CP). Results in a 22% difference in final Build Margin calculations.	12/22/2022: Updated.	12/22/2022: Closed			closed
NMF 1	12/22/2022: Univ. Minnesota CHP Plant (Plant Code 59197) is only using DFO to calculate emissions even though it uses DFO and NG. Results in a ~89,700 MT or 1.5% difference between RCE and Blue Delta.	12/22/2022: Updated.	12/22/2022: Closed			closed
ADR 1	Please provide an attestation regarding RECs/MRETS as been provided in the past and ensuring no double-counting.	12/20/22: I have sent the attached Attestation to Basin for Signature - let me know if it works for your purposes.	12/20/22: Memo version works; waiting on executed copy. 12/22/2022: Provided signed copy.			closed

ADR 2	The PD is missing Section 1.16 which is required to be included. Please see VCS Standard 3.20.5 which states "For projects registered under the CDM, the cover page and sections 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 1.12, 1.13, 1.14, 1.15.1, 1.16, 1.17, 1.18 and 3.6 of the VCS Project Description Template shall be completed.	12/20/22: Actually, the information for 1.16 (Other Forms of Credit) was included in 1.15 (Participation under Other GHG Programs) - I just needed to split it out. See attached PD v1.1.				closed
ADR 3	Please provide evidence of project start date.	12/20/22: From the original PD I have an internal email designating 12/31/2009 as the Commercial Online Date, and I have the Interconnection Agreement listing on the mutually agreed to Timetable that the "Estimated Commercial Online Date: December 31, 2009". Would either/both documents (which are on file but I can resend) suffice? And I am asking Basin if they can tell me why 12/30/2009 was used originally - does the one day difference matter? I do know that it is standard procedure for US federal tax purposes to declare wind facility's COD on 12/31, though in this case there was no tax reason to do so (as the facility did not qualify for the Production Tax Credit).	12/20/22: We will need to provide justification for the one-day difference. If you could please send the Start Date documentation over at your earliest convenience, that would be great. 12/22/2022: Provided.			closed
CR 1	The Monitoring Report, Section 3.1, says the meter was last tested on 9/20/2020. Is this different than the formal calibration?	12/20/22: I am verifying but my understanding is that the meter is recalibrated only if the meter test indicates an error, which in the case of the 9/17/2020 test it did not. On the Monitoring Report I do see my mistake on the 9/17/2020 vs 9/20/2020 meter test date and found an additional error in Section 4.2 listing a 2019 meter test date as being the most recent. Both errors have been corrected in the attached Monitoring Report (v1.2)	12/20/22: It looks like you used the initial Monitoring Report Version 1.0 instead of Version 1.1 to make these updates. Version 1.1 uses the correct template (Version 4.1). However, the Monitoring Report just provided reverts back to template Version 4.0.	12/21/22: Updated Monitoring report using correct template version provided.		closed