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DISTRICT OF WYOMING
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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF WYOMING

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| <p>UNITED STATES OF AMERICA,</p> <p>Plaintiff,</p> <p>vs.</p> <p>DUKE ENERGY RENEWABLES, INC.,</p> <p>Defendant.</p> | <p>CR 13- <i>CR 268-R</i></p> <p><u>NON-PUBLIC DOCUMENT</u></p> |
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PLEA AGREEMENT

Pursuant to Rule 11 of the Federal Rules of Criminal Procedure, the United States Department of Justice, by and through the United States Attorney for the District of Wyoming and the Environmental Crimes Section of the Environment and Natural Resources Division (hereinafter “the Department” or “the government”), and the defendant Duke Energy Renewables, Inc. (hereinafter “Duke Energy Renewables” or “the defendant”), by and through its undersigned representatives, and pursuant to the authority of defendant’s Board of Directors, enter into this Plea Agreement (“Agreement”). The terms of the Agreement are as follows:

1. The defendant is charged in the District of Wyoming by Information with two Class “B” Misdemeanor violations of Migratory Bird Treaty Act (“MBTA”), 16 U.S.C. §§ 703, 707(a).

2. The defendant’s representative and counsel have read the charges against the defendant and understand the nature and elements of the crimes with which the defendant has been charged.

3. The defendant will enter voluntary pleas of guilty to the Information in this case.

4. *Nature of the Agreement:* The parties agree that this plea agreement shall be filed and become a part of the record in this case, and will be governed by Rule 11(c)(1)(A) and (B) of the *Federal Rules of Criminal Procedure*. The defendant understands that if the agreement is accepted by the Court, it will not have an automatic right to withdraw its plea. Rule 11(d)(2)(A), *Federal Rules of Criminal Procedure*. This plea agreement binds the Department and the defendant. During the term of probation, the defendant shall provide the United States Probation Office for the District of Wyoming with notice of any corporate name change or any other change in corporate structure or governance that would materially affect

this plea agreement and/or the Migratory Bird Compliance Plan, discussed herein, within thirty (30) days of such change. No change in name, business reorganization, merger, change of legal status, or similar action or event shall alter the defendant's responsibilities under this plea agreement. The defendant agrees that it shall not knowingly engage in any action to seek to avoid the obligations and conditions set forth in this plea agreement.

5. *Effect of Withdrawal from the Agreement:* The parties stipulate and agree that if the defendant moves to withdraw its guilty plea, entered pursuant to and receiving the benefits of this agreement, and if it successfully withdraws its plea either in the district court or on appeal, that this agreement will become null and void. Moreover, if the defendant at any time after judgment is entered obtains dismissal, reversal, or remand of the count(s) of conviction for any reason, the government will be permitted to restore all charges not filed pursuant to this plea agreement. The defendant, in that circumstance, expressly waives any claim of double jeopardy or right to have this agreement enforced. In such event, the defendant waives any objections, motions, or defenses based upon the Statute of Limitations, the Speedy Trial Act, or any other potential restriction on the re-institution of counts dismissed, or institution of counts surrendered, as part of the consideration given by the government in this agreement.

6. *Admission of Guilt:* The defendant will plead guilty to the Information because it is guilty of the charges contained in the Information. In pleading guilty, Duke Energy Renewables agrees and stipulates to the facts set forth in the Statement of Facts (Attachment A). Duke Energy Renewables agrees that, if this matter were to proceed to trial, the government would prove beyond a reasonable doubt, by admissible evidence, the facts set forth in the attached Statement of Facts and as set forth in the criminal Information filed in this case.

7. *Maximum Punishment Provided by Law:* The defendant has been advised of and understands the maximum potential punishment provided by law:

Counts One and Two allege a Class “B” Misdemeanor, in violation of the MBTA, carrying a maximum penalty for an organizational defendant of a fine of not more than \$15,000 (per 16 U.S.C. § 707(a)), or twice the gross gain or loss resulting from the unlawful conduct pursuant to 18 U.S.C. § 3571(d); five years of probation (per 18 U.S.C. § 3561(c)(2)); and a special assessment of \$50 (per 18 U.S.C. § 3013(a)(1)(B)(ii)).

Additionally, the Court could impose additional conditions of probation to include the payment of community service or restitution pursuant to 18 U.S.C. § 3563(b), and a conviction could result in additional administrative sanctions such as suspension, debarment, listing to restrict rights and opportunities of the defendant to contract with or receive benefits, loans, or assistance from agencies of the United States.

8. *Elements of the Charges:*

The MBTA provides, in relevant part, that, unless and except as permitted by regulation, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, or attempt to take, capture, or kill any migratory bird. 16 U.S.C. § 703. Each bird listed in the Information is a “migratory bird” as that term is defined in the MBTA. See 50 C.F.R. § 10.13.

9. The defendant has been advised of the nature of the charges made against it and the elements of the crimes to which it is entering a guilty plea. The defendant understands that if the case were to go to trial the government would be required to prove each and every element of the crime. The defendant further acknowledges that these are the elements of the crimes charged in the Information:

(a) On or about the date(s) set forth in the Information, within the state and district of Wyoming, the defendant, through a person or entity acting on its behalf, did take (“kill”) approximately 163 “migratory birds,” as that term is defined in 50 C.F.R. § 10.12, and as listed in 50 C.F.R. § 10.13, including golden eagles, other raptors, and passerine species such as larks, buntings and sparrows, at its Campbell Hill and Top of the World wind facilities in Converse County.

(b) The taking was unlawful, in that neither the defendant nor the person or entity acting on its behalf obtained a permit or other valid authorization to take the migratory birds listed in the charge.

10. The defendant understands that by entering the guilty pleas, the government will not be required to present proof of its guilt and the elements recited herein because there will be no trial if the Court accepts its pleas of guilty and the plea agreement of the parties.

11. *Recitation of Rights:*

(a) The government has the right to use any statement made by any representative of the defendant during the entry of plea in this case against the defendant in a subsequent prosecution.

(b) If the defendant persisted in a plea of not guilty to the charges against it, it would have the right to a public and speedy trial in the United States District Court.

(c) The jury would find the facts and determine, after hearing all the evidence, whether or not it was persuaded of the defendant’s guilt beyond a reasonable doubt.

(d) The defendant has the right to be represented by counsel at trial and every other stage of these proceedings.

(e) At a trial the government would be required to present its witnesses and other evidence against the defendant. The defendant would be able to confront those government witnesses and its attorney would be able to cross-examine them. In turn, the defendant could present witnesses and other evidence in its own behalf. If the witnesses for the defendant would not appear voluntarily, it could require their attendance through the subpoena power of the court.

(f) If convicted, and within 10 days of the entry of the Judgment and Commitment, the defendant would have the right to appeal its conviction to the Tenth Circuit Court of Appeals for review to determine if any errors were made which would entitle it to reversal of conviction.

12. *Waiver of Rights by Plea:* The defendant understands that by pleading guilty pursuant to this agreement it is waiving all the rights set forth in paragraph 11. The defendant's attorney and corporate representative understand those rights and the consequences of its waiver of those rights.

13. *Corporate Authorization:* Prior to entry of plea, the defendant will provide to the Court and the Department a corporate resolution of the defendant's Board of Directors authorizing the entry of plea and compliance with all provisions of this plea agreement, and that the defendant's designated officer is authorized to appear on behalf of the defendant to enter the guilty pleas in the District of Wyoming and appear for imposition of the sentence.

14. *Recommendations:* The parties acknowledge that sentencing in this case will be determined by the Court in accordance with 18 U.S.C. § 3553. The parties understand the Court may impose any sentence up to the maximums established in the MBTA, the Criminal Fines Improvement Act, and the Alternative Fines Act and the Court is not bound by the

Sentencing Guidelines or any position or recommendation of the parties. The Court is free to make its own findings of facts and consider such sentencing factors which accord with 18 U.S.C. § 3553, including the parties' stipulations, the presentence investigation report, and any other relevant information.

15. The parties acknowledge that the sentencing of the defendant in this matter is entirely within the discretion of the Court. Understanding this, the parties intend to make the following, non-binding, joint sentencing recommendation for the Court's consideration at sentencing:

(a) The parties will jointly recommend that a fine of \$200,000 should be imposed for each Count in this case—for a total fine amount of \$400,000. The parties stipulate that this amount is less than twice the "gross gain" realized by the defendant as the result of the criminal conduct in this case. The parties agree that the \$400,000 fine imposed is properly directed to the North American Wetlands Conservation Fund for wetlands conservation work in Wyoming, as specifically provided in the North American Wetlands Conservation Act. 16 U.S.C. § 4406(b).

(b) The parties will jointly recommend that the defendant be sentenced to a term of 60 months' probation with the following specific conditions imposed in addition to the standard conditions:

(i). The defendant will implement a comprehensive Migratory Bird Compliance Plan (MBCP), developed with the assistance of the USFWS and the Department, which is set forth in Attachment B hereto. The purpose of the MBCP is to (1) avoid and minimize, to the maximum degree practicable, golden eagle and other avian mortalities at the defendant's four wind projects in Wyoming—Campbell Hill, Top of the World, Silver Sage,

and Happy Jack—through various measures that will include, among other things, the development of “life of project” Bird and Bat Conservation Strategies at all four sites, informed curtailment, prey reduction, the study of avian detection/deterrent technologies, the study of eagle biology turbine interactions associated with collision risk, rigorous monitoring of migratory bird mortalities occurring at those facilities, with research project(s) designed to increase understanding of effective search protocols, scavenging rates and searcher efficiency for migratory birds; and creation of a structure in which the defendant will undertake compensatory mitigation for takes of eagles, which will also benefit other migratory birds, that are killed at the sites during the probation period. The MBCP will provide the framework of a specific Eagle Conservation Plan, necessary to the defendant’s application for Programmatic Eagle Take Permits, discussed below. The MBCP has been approved by the Chief of Migratory Birds for USFWS Region 6 and the Department. It is expected that the cost to implement the MBCP (not including the costs associated with compensatory mitigation, or developing and implementing the Bird and Bat Conservation Strategies) will not exceed \$600,000 annually, recognizing that actual costs will vary from year to year based on advances in science and technology, the measures selected to be implemented, and the success or failure of those measures. The defendant, USFWS, and the Department will meet at least once every six months during the first two years of the probationary period, and once every twelve months thereafter, to discuss the defendant’s progress in implementing the MBCP and to address any issues or amendments necessary to ensure the MBCP’s effectiveness. Every twelve months during the probation period, the defendant shall report in writing to the Court (via the U.S. Probation Office), the USFWS, and the Department concerning the progress it has made implementing the MBCP.

(ii). Within 24 months of sentencing, the defendant will develop an Eagle Conservation Plan and apply for, and diligently pursue, USFWS Programmatic Eagle Take Permits (“ETPs”) for the Campbell Hill and Top Of The World wind projects and any other of its Wyoming wind projects at which the defendant feels such a Permit will be needed.

(iii). The defendant will make restitution to the state of Wyoming in the amount of \$100,000, within the first six months of probation, to be deposited in a fund or account as directed by the Wyoming Game & Fish Department:

(iv). The defendant will perform community service by making a \$150,000 payment within the first six months of probation to the National Fish and Wildlife Foundation, a private, non-profit, § 501(c)(3) tax-exempt organization, established by Congress in 1984 and dedicated to the conservation of fish, wildlife and plants and the habitat on which they depend. The funds will be directed to the Foundation with the proviso that they be used in projects designed to preserve golden eagles in Wyoming and increase understanding of ways to minimize and monitor interactions between golden eagles and commercial wind power facilities. The defendant will not claim this payment or any other community service or restitution amount herein as a tax deduction or characterize it in any manner or forum as a donation or contribution.

(v). Within the first six months of probation, the defendant will perform community service by making a payment of \$10,000 to the National Fish and Wildlife Foundation, with the proviso that they be used in projects designed to enhance eagle rehabilitation and conservation programs in Wyoming.

(vi). The defendant will perform community service by contributing \$340,000 to The Conservation Fund for the purchase of land, or conservation easements on

land, in Wyoming containing high-use golden eagle habitat, which will be preserved and managed for the benefit of that species;

(c) Both parties acknowledge that the Court is not bound by the recommendations of either party and may impose any sentence within the maximum penalties provided by the MBTA, the Alternative Fines Act and the Criminal Fines Improvements Act provided for the offenses of conviction.

16. *Non-Prosecution:* The goal of the MBCP is to minimize and mitigate, to the greatest feasible extent, future unpermitted bird mortalities at the defendant's wind projects in Wyoming. However, the parties acknowledge that some birds, including eagles, may be killed at the defendant's wind projects in Wyoming despite conscientious implementation of the MBCP. As part of this plea agreement and in consideration of the defendant's plea of guilty to Counts One and Two of the Information, the defendant's promises and commitments in this plea agreement, the defendant's obligations under the MBCP, and the defendant's compliance with both this agreement and the MBCP, the government agrees to forego additional criminal prosecution of the defendant in the District of Wyoming for any other criminal offenses involving the unlawful taking of migratory birds, including eagles, at and by its currently operating Wyoming wind projects which: (a) occurred before the date of this plea agreement; (b) are known to the government at the time of the signing of this plea agreement; and (c) are not presently the subject of negotiation or litigation between the defendant or its subsidiaries, agents, or employees, and the government. The government further agrees not to prosecute the defendant under the MBTA or Bald and Golden Eagle Protection Act ("Eagle Act") (16 U.S.C. §§ 668-668d) for unpermitted takings of migratory birds or other avian wildlife at and by its currently-operating Wyoming wind facilities that occur after the date of this plea agreement,

provided the defendant remains in compliance with the MBCP and other terms of this agreement. This Plea Agreement applies only to violations of the MBTA and Eagle Act committed by the defendant at its four Wyoming wind projects and has no effect on any proceedings against any entity or individual not expressly mentioned herein, including the actual or potential criminal liability of any individuals. The government has informed the defendant, however, that it does not intend to prosecute any individuals employed by it for any conduct described herein, or related hereto, unless it obtains new and material incriminating information not presently known to the government. As noted in paragraph 15(b)(ii) above, within 24 months of sentencing, the defendant will apply for, and diligently pursue, Programmatic Eagle Take Permit(s) for its Wyoming wind projects that have taken golden eagles. Given the complex scientific and regulatory nature of this recently-established Permit program, the parties expect the application process will be lengthy. Therefore, the government will extend its “non-prosecution” agreement under the Eagle Act and the MBTA beyond the probationary period, provided that defendant continues to implement the MBCP and diligently pursue the ETP(s) in good faith, until the earlier of the following two events: 1) the defendant has either obtained ETPs for its Wyoming wind projects that have taken golden eagles and any appeals of such permits have been resolved, or 2) October 15, 2023. The defendant understands and agrees that neither this paragraph nor this plea agreement limits the prosecuting authority of any federal, state or local regulatory or prosecuting entity, other than the United States Attorney’s Office for the District of Wyoming and the Environmental Crimes Section. Furthermore, this plea agreement does not provide or promise any waiver of any civil or administrative actions, sanctions, or penalties that may apply, including but not limited to: fines, penalties, claims for damages to natural resources, suspension, debarment, listing to

restrict rights and opportunities of defendant to contract with or receive assistance, loans, and benefits from U.S. agencies, licensing, injunctive relief, or remedial action to comply with any applicable regulatory requirement. This plea agreement applies only to violations of the MBTA and Eagle Act by the defendant and has no effect on any proceedings against any entity or individual not expressly mentioned herein.


17. *Appeal Waiver:* The defendant acknowledges that 18 U.S.C. § 3742 affords it the right to appeal the sentence imposed in this case. In consideration for the government's concessions in this agreement, the defendant waives any and all right to directly appeal any aspect of the sentence, including conditions of probation.


18. *Voluntary Plea:* The defendant's attorney acknowledges that no threats, promises, or representations have been made, nor agreements reached, other than those set forth in this agreement to induce the defendant to plead guilty.


19. *Special Assessment/Financial Obligations:* The defendant recognizes that it will be responsible for a mandatory assessment of \$50 on each count of the Information, pursuant to 18 U.S.C. § 3013 of the Comprehensive Crime Control Act. The defendant understands and agrees that, pursuant to 18 U.S.C. § 3613, whatever monetary penalties are imposed by the Court will be due and payable immediately and subject to immediate enforcement by the United States. If the Court imposes a schedule of payments, the defendant understands that the schedule of payments is merely a minimum schedule of payments and not the only method, nor a limitation on the methods available to the United States to enforce the judgment.

20. *Entire Agreement:* Any statements or representations made by the United States, the defendant, or its counsel prior to the full execution of this plea agreement are superseded by

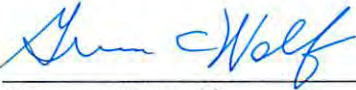
this plea agreement. No promises or representations have been made by the United States except as set forth in writing in this plea agreement. This plea agreement constitutes the entire agreement between the parties. Any term or condition which is not expressly stated as part of this plea agreement is not to be considered part of the agreement.


CHRISTOPHER A. CROFTS
United States Attorney
Attorney for the Government

for 
JASON M. CONDER
Assistant United States Attorney
Attorney for the Government


ROBERT S. ANDERSON
Senior Counsel
Environmental Crimes Section
Attorney for the Government

I am the authorized corporate representative of Duke Energy Renewables, Inc. I have read this plea agreement and every part of it has been carefully reviewed with responsible management and officers of Duke Energy Renewables and its counsel, Thomas L. Sansonetti. I understand the terms of this plea agreement and Duke Energy Renewables voluntarily agrees to those terms. Duke Energy Renewables understands its rights, possible defenses, and of the consequences of entering into this plea agreement. No promises or inducements have been made to Duke Energy Renewables or to me other than those contained in this plea agreement. No one has threatened or forced Duke Energy Renewables in any way to enter into this plea agreement. Duke Energy Renewables is satisfied with its representation and counsel by Mr. Sansonetti in this matter.

Date: 11/4/2013 BY: 
Gregory C. Wolf
President
Duke Energy Renewables, Inc.

I am Duke Energy Renewables' attorney. I have carefully discussed this plea agreement with the authorized representative(s) of Duke Energy Renewables. I have fully advised Duke Energy Renewables of the corporation's rights, possible defenses, and the consequences of entering into this plea agreement. I believe the decision of Duke Energy Renewables to enter into this plea agreement is informed and voluntary.

Date: 11.1.13

BY: Thomas L. Sansonetti
Thomas L. Sansonetti, Esq.
Holland & Hart LLP
Counsel for Duke Energy Renewables, Inc.

ATTACHMENT A
STATEMENT OF FACTS

This Statement of Facts is incorporated by reference as part of the Plea Agreement between the Defendant, Duke Energy Renewables, Inc. and the United States Department of Justice, by and through the United States Attorney for the District of Wyoming and the Environment and Natural Resources Division, Environmental Crimes Section (together, the “Department”). Duke Energy Renewables hereby agrees and stipulates that the following information is true and accurate to the best of its knowledge. Duke Energy Renewables admits, accepts, and acknowledges that it is responsible for the acts and omissions of its officers, directors, employees, and agents as set forth below. If this matter were to proceed to trial, the Department would prove beyond a reasonable doubt, by admissible evidence, the facts alleged below and set forth in the criminal Information attached to this Agreement. This evidence would establish the following:

I. BACKGROUND

- A. Commercial wind power projects can cause the deaths of federally protected birds in four primary ways: collision with wind turbines, collision with associated meteorological towers, collision with, or electrocution by, associated electrical power facilities, and nest abandonment or behavior avoidance from habitat modification.
- B. Collision and electrocution risks from power lines (collisions and electrocutions) and guyed structures (collision) have been known to the utility and communication industries for decades, and specific methods of minimizing and avoiding the risks have been developed, in conjunction with agencies authorized to enforce federal avian protection

laws, such as the Migratory Bird Treaty Act (“MBTA”), 16 U.S.C. §§ 703-712, and the Bald and Golden Eagle Protection Act (“Eagle Act”), 16 U.S.C. §§ 668-668d.

- C. The risks from wind turbine impacts are less well understood. Understanding of these risks have continued to evolve since the U.S. Fish and Wildlife Service (“USFWS”) issued its first interim guidance about how wind project developers could avoid impacts to wildlife from wind turbines in 2003, and is more fully informed by the “tiered” approach outlined in the Land-Based Wind Energy Guidelines (“2012 LBWEGs”), developed with the wind industry starting in 2007 and released in final form by the USFWS on March 23, 2012.
- D. Due diligence during the pre-construction stage—as described in the 2003 Interim Guidelines and tiers one through three in the 2012 LBWEGs—in surveying the wildlife present in the proposed project area, determining whether the risk to wildlife is too high to justify proceeding and, if not, carefully siting turbines so as to avoid and minimize the risk as much as possible, is critically important for wind projects because, unlike electric distribution equipment and guyed towers, at the present time, no post-construction remedies, except “curtailment” (i.e., shut down), have been developed that can “render safe” a wind turbine placed in a location of high avian collision risk.
- E. In parts of Wyoming, golden eagles may be particularly susceptible to wind turbine blade collision by wind power facilities erected in areas of high eagle use.
- F. Golden eagles are not listed as threatened or endangered under U.S. law. However, they are one of the many species protected by the MBTA, and are more specifically protected under the Eagle Act, which provides a “Class A” misdemeanor penalty for the first offense of taking a bald or golden eagle “knowingly” or “with wanton disregard for the

consequences of his act.” Second and subsequent violations are “Class E” felonies.” In 2009, following “delisting” of the bald eagle under Endangered Species Act, USFWS enacted the “Eagle Permit Rule” to allow issuance of programmatic (ongoing) and individual (one-time) permits for the non-purposeful take of bald and golden eagles. USFWS issued draft guidance on development of an eagle conservation plan to obtain a programmatic take permit for a wind facility in 2011, which was finalized in April 2013. The MBTA provides for a Class “B” misdemeanor penalty for unpermitted takings of migratory birds. 16 U.S.C. §§ 703, 707. “Take” means “to pursue, hunt, shoot, wound, kill, trap, capture, or collect” or to attempt to do so. 50 C.F.R. § 10.12. “Kill” is not further defined. A list of bird species protected by the MBTA, including passerines, waterfowl, raptors (including golden eagles), and shorebirds, is found at 50 C.F.R. § 10.13. Criminal liability of corporations for violating the MBTA has been upheld in the Tenth Circuit. *See, e.g., United States v. Apollo Energies*, 611 F.3d 679, 683 (10th Cir. 2010); *United States v. Moon Lake Electric Ass’n, Inc.*, 45 F. Supp. 2d 1070 (D. Colo. 1999).

- G. There is currently no means or mechanism to acquire a programmatic permit under the MBTA to take a migratory bird from operation of an otherwise lawful activity, such as operation of a wind energy facility. However, as set forth in both the 2003 Interim Guidance and the 2012 LBWEGs, the USFWS Office of Law Enforcement focuses its resources on investigating and prosecuting those who take migratory birds without identifying and implementing reasonable and effective measures to avoid take, exercising enforcement and prosecutorial discretion regarding individuals and companies who make good-faith efforts to avoid the take of migratory birds.

- H. Counts One and Two of the Information each charge a violation of the MBTA's Class "B" misdemeanor "take" prohibition.

II. Duke Energy Renewables' Development Of, and Avian Takings At, the Campbell Hill Wind Project

- A. In 2006, Duke Energy Renewables' predecessor-in-interest, Tierra Energy, LLC began to develop a commercial wind power facility in Converse County, Wyoming, called the "Campbell Hill Wind Energy Facility" (hereinafter "Campbell Hill"). Duke Energy Renewables acquired Tierra Energy on May 29, 2007. The project, sited on private land used for sheep and cattle grazing, eventually comprised 66 1.5-megawatt General Electric wind turbines.
- B. Duke Energy Renewables initially hired consulting company Ecology and Environment, Inc. ("E&E"), based in Lancaster, New York, to conduct baseline wildlife studies for the project. In August 2008, the USFWS advised E&E to conduct multiple years of pre-and post-construction wildlife survey and monitoring in order to fully understand wildlife impacts associated with the project. This advice was in accord with the 2003 USFWS voluntary guidelines encouraging wind energy developers to make all feasible good-faith efforts in the siting and development of wind projects to avoid and minimize avian take at wind projects in order to earn MBTA and Eagle Act enforcement forbearance from the agency.
- C. In October 2008, Duke Energy Renewables' new wildlife consulting company, Western EcoSystems Technology, Inc. ("WEST") met with USFWS and reported observing two golden eagles frequenting the area near a recently-discovered eagle nest located within the Campbell Hill wind project boundary.

- D. In December 2008, USFWS informed WEST of the agency's concern regarding lack of data on bird use prior to turbine site selection and potential for high mortality at the Campbell Hill site. USFWS recommended selecting another project site or establishing non-disturbance buffer zones to protect nesting birds. The USFWS recommended collecting environmental resources data containing normal bird movements prior to determining turbine locations.
- E. In December 2008, Duke Energy Renewables issued WEST's wildlife study report for the Campbell Hill wind project, comprised of seven ground surveys conducted during a three-month period between September 8, 2008, and November 10, 2008, and noting the discovery of 29 raptor nests in and near the project area, but concluding there was no concentration of raptor use along ridges. The study estimated that of all migratory bird species utilizing the project area, golden eagles would likely experience the third-highest level of collision fatality from the project.
- F. In January 2009, Duke Energy Renewables applied to the Wyoming Industrial Siting Council for a permit authorizing the construction of the Campbell Hill wind project.
- G. In February 2009, USFWS informed Duke Energy Renewables that the agency continued to have concerns regarding impacts to avian wildlife as a result of Duke Energy Renewables' development of the Campbell Hill wind project.
- H. In April 2009, Duke Energy Renewables informed USFWS that construction of the Campbell Hill wind project had begun.
- I. On December 1, 2009, Duke Energy Renewables began commercial operation of the Campbell Hill wind project.

- J. Duke Energy Renewables began formal post-construction avian mortality monitoring in February 2010, following a USFWS-approved protocol using third-party contractors to search for avian carcasses potentially impacted by site operations. In addition, Duke Energy Renewables site personnel were trained by Duke Energy Renewables biologists to look for and report all bird mortalities to Duke Energy Renewables headquarters.
- K. Between March 2010 and October 10, 2013, Duke Energy Renewables voluntarily reported to USFWS the discovery of 58 migratory bird carcasses (including raptors, larks, sparrows, and others), near the meteorological towers and wind turbines at the Campbell Hill wind project. The parties stipulate that the condition and location of these carcasses is consistent with death caused by collision with a meteorological tower, guy wire, or turbine. In accordance with its commitment as incorporated into its Wyoming Industrial Siting permit, Duke Energy Renewables also reported to USFWS, within 24 hours of discovery, three golden eagle carcasses found near wind turbines at the Campbell Hill wind project in that same time period. These eagle carcasses have been examined and found to have sustained injuries consistent with collision with a wind turbine blade.

III. Duke Energy Renewables' Development Of, and Avian Takings At, the Top Of The World Wind Project

- A. In 2007, Duke Energy Renewables' predecessor in interest, Catamount Energy Corporation, began to develop a commercial wind power in Converse County, Wyoming, called the "Top of the World Wind Energy Facility" (hereinafter "Top of the World"). Duke Energy Renewables acquired Catamount in June 2008. The project, sited on private land used for sheep and cattle ranching, eventually comprised 66 1.5-megawatt General Electric wind turbine generators, and 44 2.3-megawatt Siemens wind turbine

generators. Duke Energy Renewables hired WEST to perform pre-construction wildlife surveying for the project.

- B. In August 2009, Duke Energy Renewables shared with USFWS the results of WEST's Wildlife Baseline Studies Report for the project, showing that golden eagles had the highest "exposure index" (exposure to collision fatality) of the avian species present in the area, and predicting 10 raptor takings per 100 megawatts of production per year (or 20 per year for the 200-megawatt project). USFWS advised Duke Energy Renewables there had been no prior coordination attempted between Duke Energy Renewables or WEST and the agency regarding wildlife survey methods employed or survey results at the project site.
- C. In November 2009, USFWS sent a letter to Duke Energy Renewables in response to the Wildlife Baseline Studies Report, noting that the studies were inadequate to allow for well-informed turbine site selection. USFWS also provided Duke Energy Renewables with the location of an eagle nest that was active in 2009 and which was 0.25 mile from a proposed transmission line in the project, and 0.5 mile from the nearest proposed turbine site.
- D. In March 2010, USFWS informed Duke Energy Renewables that avian survey results provided to the USFWS, thus far, consisted of data collected in 2008 and 2009 from only 5.6 square miles of the 37.2 square mile project area, and data collected from spring through fall in 2009 from the full project area. USFWS informed Duke Energy Renewables that its surveys may not be sufficient to determine how best to site turbines to avoid or minimize take of migratory birds, particularly eagles.

- E. In October 2010, Duke Energy Renewables began commercial operation of the Top of the World wind project.
- F. Between September 2010 and October 10, 2013, Duke Energy Renewables voluntarily reported to USFWS the discovery of 105 migratory bird carcasses (including raptors, larks, sparrows, and others), near the meteorological towers and wind turbines at the Top of the World wind project. The parties stipulate that the condition and location of these carcasses is consistent with death caused by collision with a meteorological tower, guy wire, or turbine. In accordance with its commitment as incorporated into its Wyoming Industrial Siting permit, Duke Energy Renewables also reported to USFWS, within 24 hours of discovery, 11 golden eagle carcasses found near wind turbines at the Top of the World wind project in that same time period. These eagle carcasses have been examined and found to have sustained injuries consistent with collision with a wind turbine blade.

IV. Duke Energy Renewables' Efforts to Minimize Avian Take at Campbell Hill and Top of the World Wind Projects.

- A. Duke Energy Renewables micro-sited several turbine arrays and individual turbines at both sites in response to sensitive wildlife resources. Duke Energy Renewables sited all wind turbines greater than one mile from active raptor nests discovered during the limited pre-construction wildlife surveys performed by WEST, with the exception of one turbine at Top of the World, which was located 0.91 mile from a golden eagle nest but out of "line of sight" from the nest.
- B. Duke Energy Renewables sited the overhead transmission lines greater than 0.25 mile from all raptor nests identified during WEST's limited pre-construction wildlife surveys. The transmission lines were constructed in accordance with the Suggested Practices of the Avian Power Line Interaction Committee (APLIC 2006) for raptor protection on

power lines, including perch discouragers on the top of the power poles. At Top of the World, the transmission line included Swan-Flight™ Diverters where the line spans Sand Creek, because raptor use is anticipated to be greater in the vicinity of Sand Creek than in upland areas. Electrocutation risk was eliminated at the facilities by burying the majority of the collector electric lines and fully bundling and insulating the rest.

- C. Duke Energy Renewables installed Bird-Flight™ Diverters on the guy wires supporting the permanent meteorological tower at Top of the World. At Campbell Hill, Duke Energy Renewables removed the meteorological towers in June 2012, which eliminated this source of avian mortality.
- D. Pursuant to its Wyoming Industrial Power Siting Permit and at the direction of the Technical Advisory Committee established under that permit, Duke Energy Renewables has conducted three years of post-construction monitoring at Campbell Hill and two years of post-construction monitoring at Top of the World. The third year of post-construction monitoring at Top of the World is ongoing. Duke Energy Renewables also conducted supplemental golden eagle observation surveys at Top of the World designed to evaluate the extent of spatial use in the vicinity of turbines in Winter and Spring 2012. In addition to the formal post-construction monitoring, Duke Energy Renewables voluntarily implemented a formal Wildlife Incident Monitoring and Reporting System (“WIMRS”), an internally-developed protocol consisting of trained site personnel performing periodic avian carcass searches in conjunction with their normal site duties coupled with a formal internal reporting system to track any findings.
- E. In 2011, Duke Energy Renewables began to develop Avian and Bat Protection Plans for the Campbell Hill and Top of the World wind projects, which were subsequently

converted and updated to Bird and Bat Conservation Strategies (“BBCSs”) at the recommendation of the 2012 LBWEGs. Also as outlined in the 2012 LBWEGs, Duke Energy Renewables has met with USFWS representatives periodically to discuss adaptive management measures that might reduce avian mortality, especially golden eagle deaths, that had been occurring at the projects.

- F. As part of these BBCSs, and as part of its adaptive management response to the eagle mortalities, Duke Energy Renewables has initiated a proof-of-concept radar project where it has deployed a complex radar system at Top of the World, aimed to test the radar’s effectiveness in detecting the presence of large birds/eagles in the project area that are flying within the rotor-swept altitude with the potential to trigger the shutdown (“curtailment”) of nearby turbines. Duke Energy Renewables is continuing to test the effectiveness of this system. The cost of this proof-of-concept radar project has exceeded \$750,000.
- G. Duke Energy Renewables has also voluntarily implemented daytime curtailment, including daylight-hour full curtailment and “informed curtailment” based on biologist observation, of several turbines at Top of the World that are located in areas of higher eagle use. These curtailments have resulted in significant generation loss and associated revenue loss to Duke Energy Renewables. Since the implementation of the radar and other curtailment measures, no eagle fatalities have been discovered by Duke Energy Renewables at Top of the World. Duke Energy Renewables has implemented other adaptive management measures including removal of attractants such as carrion (including dead livestock) and limiting vehicle operation during the evenings to avoid disturbing ground-roosting eagles. Duke Energy Renewables has agreed to continue

fatality monitoring through its WIMRS program or other means at both wind projects beyond the requirements of the Wyoming Industrial Siting Permit.

- H. A subsequent, stand-alone Migratory Bird Compliance Plan is contemplated as a condition of probation and will build on these initial steps and contain a comprehensive suite of actions, research and mitigation aimed at minimizing, to the maximum degree practicable, the risk posed to avian wildlife by the wind turbines at Campbell Hill and Top of the World and to compensate for future eagle takes, should they occur. The government credits the efforts taken by Duke Energy Renewables so far in this regard, along with Duke Energy Renewables' willingness to meet and discuss these measures with USFWS and the U.S. Department of Justice. But for such cooperation, the government would seek additional charges and substantially greater fine amounts.
- I. Both the Campbell Hill Wind Project and Top of the World wind projects were developed, constructed, and placed into commercial operation several years after USFWS issuance of the 2003 interim wind energy development guidelines, but prior to the final 2012 LBWEGs and final eagle conservation plan guidance.
- J. The parties agree that the evidence described herein indicates that the takings of eagles and other migratory birds by Duke Energy Renewables at its Campbell Hill and Top of the World wind projects were committed knowingly, inasmuch as the company knew from WEST's pre-construction wildlife surveys that unauthorized avian fatalities would likely occur as the proximate result of its construction and operation of the projects, and failed to take all reasonable steps prior to operation necessary to avoid and minimize such takings. The Department believes the evidence in this case would support charging and conviction under both the MBTA and the Eagle Act. However, the Department has

exercised its discretion to charge Duke Energy Renewables with two misdemeanor violations of the MBTA due to Duke Energy Renewables' voluntary cooperation during the investigation of this case, its willingness to acknowledge the facts contained herein and enter into the Plea Agreement, the company's voluntary reporting of unpermitted avian takes, and its significant efforts to minimize and mitigate for past and future takes of golden eagles and other migratory birds at its wind power facilities in Wyoming.

- K. The Department and USFWS believe, based on interactions with Duke Energy Renewables' counsel and management in the past 10 months, and the facts discussed herein, that the defendant company has undergone a significant beneficial change in its approach to safeguarding public wildlife resources in the development and operation of its industrial sites in Wyoming.

V. Duke Energy Renewables' Other Wyoming Wind Facilities

- A. In addition to the Top of the World and Campbell Hill facilities, Duke Energy Renewables owns and operates two other wind power facilities in Wyoming: Happy Jack and Silver Sage.
- B. Happy Jack is located approximately eight miles west of Cheyenne in Laramie County. It consists of 14 wind turbines for a total generating capacity of 29.4 megawatts. Because the facility required an interconnection with facilities under the jurisdiction of the Western Area Power Administration, it triggered the requirements of the National Environmental Policy Act, including the preparation of an environmental assessment.
- C. To support the analysis in the environmental assessment, Duke Energy Renewables and its predecessors conducted preconstruction surveys in Fall 2006 and Spring 2007. These surveys indicated that risks to migratory birds and raptors, including golden eagles, were

low. The results of these surveys were shared with the USFWS, which raised no siting concerns about the location of Happy Jack. USFWS recommended standard best management practices for design and operation of the facility, which Duke Energy Renewables implemented. It also requested two years of post-construction mortality monitoring, which Duke Energy Renewables performed.

- D. Duke Energy Renewables commenced commercial operations at Happy Jack in September 2008. Despite the relatively low use of the site by migratory birds, Duke Energy Renewables discovered 20 migratory bird carcasses, all songbirds, in its post-construction surveys. Duke Energy Renewables shared the results of these surveys with USFWS.
- E. Silver Sage is located immediately adjacent to the Happy Jack facility, approximately 10 miles west of Cheyenne in Laramie County. It consists of 20 wind turbines for a total generating capacity of 42 megawatts.
- F. Duke Energy Renewables conducted raptor migration and point-count surveys in September and October 2008 and raptor nest surveys in January and February 2009. These surveys confirmed that species composition, avian use, and habitat at the Silver Sage site were very similar to the Happy Jack site and that the Silver Sage site also posed low risk to sensitive and migratory avian species.
- G. Duke Energy Renewables commenced commercial operations at Silver Sage in October 2009. At the request of USFWS, Duke Energy Renewables conducted two years of post-construction mortality monitoring at Silver Sage. During these monitoring efforts, Duke Energy Renewables discovered four migratory bird carcasses, three songbirds and one waterfowl. It shared these monitoring results with USFWS.

ATTACHMENT B

MIGRATORY BIRD COMPLIANCE PLAN (“MBCP”)

An element of the Plea Agreement (Agreement) between Duke Energy Renewables, Inc. (DER) and the United States Department of Justice (Department):

1. **Bird and Bat Conservation Strategy:** DER shall revise the Bird and Bat Conservation Strategies (BBCSs) for each the four wind sites covered under the Agreement (Happy Jack - HJW, Silver Sage - SSW, Campbell Hill - CHW and Top of the World - TOTW) in close coordination with the U.S. Fish and Wildlife Service (USFWS), Wyoming Ecological Services Field Office. The revised BBCSs will conform and adhere to the 2012 USFWS Land-Based Wind Energy Guidelines (LBWEGs) and include a thorough description and analysis of each Tier of the LBWEGs. Per Chapter 9 of the LBWEGs, the BBCS can be written and revised in stages, over time, as analysis and studies are undertaken for each Tier. The Parties contemplate that, pursuant to Chapter 9 of the LBWEG, USFWS review of or discussion with a developer concerning its BBCSs is advisory only, does not result in approval or disapproval of the BBCS by the USFWS, and does not constitute a federal agency action subject to the National Environmental Policy Act or other federal law applicable to such an action. DER and the USFWS will both exercise due diligence and close coordination to ensure the BBCSs are meaningful, useful documents designed to increase understanding of migratory bird use at the project areas and avoid their take, where possible.
 - 1.1 It is understood by the Department and DER (collectively referred to as “the Parties”) that these projects were all developed and constructed and became operational prior to the finalization of the LBWEGs so information and data for Tiers 1-4 may be incomplete and potentially not in full adherence with the LBWEGs. However, some elements of Tiers 1-5 have been collected and shall be presented in the BBCSs in order to inform subsequent steps and measures to be included in the BBCSs going forward.
 - 1.2 It is understood by the Parties that each of the BBCSs is (1) a “life of project” document; (2) a living document that is updated and revised periodically based on Tiers being completed and as new information, technologies, and understanding of wind projects impacts to wildlife resources are developed; and (3) a separate, distinct document from this MBCP.
 - 1.3 It is understood by the Parties that the studies, surveys, data collection, practicable avoidance, minimization, and mitigation measures (if necessary), as well as the

Eagle Conservation Plan (ECP) (See Section 6), and other information resulting from the implementation of this MBCP shall be incorporated into the BBCSs throughout the life of the projects.

1.4 The initial revision of the BBCSs shall be completed within 120 days from the date of sentencing. It is understood by the Parties that following this initial update of the BBCSs, the BBCSs may be changed, revised, or updated when done in close coordination with the USFWS. Any revisions or updates the BBCSs shall continue to conform to the LBWEGs.

1. **Tier 5 Golden Eagle Analysis:** At the TOTW and CHW sites, DER has collected a significant amount of Tier 2, 3, 4, and 5 data, including:

- Pre-construction agency consultation (Tier 2)
- Pre-construction avian and eagle use surveys (Tier 3)
- Pre-construction raptor nest surveys (Tier 3)
- Pre-construction eagle use surveys (Tier 3)
- Post-construction eagle use surveys (Tier 4)
- Post-construction mortality studies of birds and bats by a third party (Tier 4a)
- Post-construction incidental observations, and mortality self monitoring (Wildlife Incident Monitoring and Reporting System) (Tier 4a)
- Post-construction radar proof of concept (Tier 5)
- Post-construction informed curtailment (Tier 5)
- Post-construction audible deterrent testing (Tier 5)

2.1 With concurrence from the USFWS that aforementioned data are adequate to inform decisions, these Tier 1 – 5 surveys, studies, and data-collection accomplished to date, the most significant issue, and thus the focus of this MBCP, shall be on golden eagles (GOEA) at TOTW and CHW.

2.2 Within 12 months from the date of sentencing, DER will conduct an analysis of the existing Tier 2, 3, 4, and 5 data. This analysis shall include:

- 2.2.1 GOEAs temporal (year-to-year, seasonal, and time-of-day) and spatial use of the TOTW and CHW sites.
- 2.2.2 Risk profiles of GOEA resident breeders, new resident fledglings, migratory/floaters, age classes.
- 2.2.3 Behavioral and site-specific risk drivers (hunting; directional/destination flying; perching – including flushing from perch; migration; prey preference, abundance, and cycles; topography; thermal use; wind speed/direction; precipitation [including snow cover]; and other site-specific factors).

- 2.2.4 Predicted estimated take using USFWS current eagle-take estimating model and compare the model estimates with the documented take at the sites.
- 2.3 It is understood by the Parties:
 - 2.3.1 The initial analysis will use existing studies, surveys, and data.
 - 2.3.2 Additional data collected in the first 24 months of the probation term will be used to update this analysis and be included in the ECP development (see Section 6).
 - 2.3.3 At the end of the probation period, the additional data collected over the term of the probation shall be included in the site-specific BBCSs.
- 3. **Experimental Advanced Conservation Practices:** Based on the studies, surveys, and data collected at CHW and TOTW and adjusted based on Section 2 above, DER shall implement specific measures and actions on the sites to avoid and minimize impacts to eagles and other migratory birds. These measures and actions will be implemented incrementally as outlined below over the five-year probation period and shall include the continuation of measures and actions already in place to avoid and minimize eagle take.
 - 3.1 DER will implement the following measures at the four sites (HJW, SSW, CHW, TOTW):
 - 3.1.1 Immediately upon the date of sentencing, DER will effect prompt removal or burying of carrion (livestock or wildlife) from the sites upon discovery to remove the potential attraction to GOEAs and other carrion-eating avifauna. This measure shall be implemented immediately upon the date of sentencing.
 - 3.1.2 Within 12 months of sentencing, DER will conduct survey, assessment, and ultimate removal or modification of manmade habitat features that may harbor lagomorphs (rock piles, debris piles, etc.) or fossorial mammals.
 - 3.2 Best Management Practices and other single-event actions to be implemented at TOTW.
 - 3.2.1 Within 90 days of sentencing, and thereafter at a frequency of at least weekly, DER will effect the removal of roadkill carcasses along SR 95 from the town of Glenrock to five miles east of the TOTW site. This measure shall be contingent on approval by the Wyoming Game and Fish Department.
 - 3.2.2 Within 12 months of sentencing, DER will remove the two guyed meteorological towers.
 - 3.2.3 Adjusted Wind Turbine Operation (AWTO): To reduce impacts to nocturnal flying wildlife, DER will adjust wind turbine operations at TOTW

so that all wind turbines rotate at less than 2 rpm during periods when the 10-minute-average ambient wind speed is below the manufacturer's designed turbine wind cut-in speed. The AWTO shall occur from March 15 to October 15 from ½ hour before sunset to ½ hour after sunrise. If it is determined by DER that this mode of operation is causing or likely to cause significant equipment damage (i.e., bearing flattening, sub-optimal lubrication, etc.) based on its experience with the Siemens wind turbines at other wind sites or information provided by Siemens, this AWTO mode will be suspended and the Parties will confer to discuss other potential turbine operational modes that can reduce impacts to nocturnal flying wildlife. Note that the GE wind turbine generators at CHW and TOTW were designed for this operation and already operate in this mode. This measure shall be implemented by March 15, 2015.

3.3 Ongoing Experimental Advanced Conservation Practices (EACPs) implemented at TOTW. These actions and measures will be driven by a robust adaptive management framework. These EACPs, if proven to effectively reduce eagle fatalities beyond the baseline condition, will be considered for inclusion into the ECP (see Section 6). This reduction of take will be measured against a baseline of estimated take resulting from running the current USFWS eagle fatality model as required in Section 2.1.4 above. In addition, the cost of implementation, testing, evaluation, and operation of these ACPs is included in the approximate \$600,000 per year cost cap set forth in the Plea Agreement. The following experimental ACPs, and any other not yet defined ACPs that are implemented pursuant to Section 3.5 below, will be identified and prioritized for implementation in coordination with the USFWS.

3.3.1 DER will conduct the following visual response/deterrent testing at TOTW.

3.3.1.1 DER shall work with the manufacturer and other partners to test the efficacy of an ultraviolet light system that has been preliminarily shown to instill involuntary and voluntary reflexes in various birds, including bald eagles.

3.3.1.2 DER will evaluate blade painting (in UV colors) literature and study results conducted at other wind sites.

3.3.1.3 DER will provide a report of visual response/deterrent testing and/or evaluation to USFWS upon completion.

3.3.1.4 This visual deterrent testing and evaluation shall be completed within 12 months from the date of sentencing.

3.3.2 DER will conduct the following audible deterrent testing and/or evaluation at TOTW.

- 3.3.2.1 DER will evaluate the effectiveness of audible sound deterrents at TOTW. The deterrents may be tested for the first time at TOTW and/or may be audible sound deterrents that have been fully tested at other similar wind sites.
 - 3.3.2.2 DER will provide a report of audible sound deterrent testing and/or evaluation to USFWS upon completion.
 - 3.3.2.3 These audible deterrent tests or evaluations shall be completed within 12 months from the date of sentencing.
- 3.3.3 “Informed Curtailment” at TOTW:
- 3.3.3.1 If the visual response/deterrent tests and audible sound deterrents are found to be ineffective at reducing eagle collisions, to be cost prohibitive to install and operate, or to create other significant non-wildlife-related conflicts (i.e., noise impacts to nearby residents, frighten livestock, etc.), DER will implement informed curtailment, using biological monitors who will have the capability to curtail turbine(s) when eagles are flying near wind turbines and exhibiting risky behavior. Data and information gathered in Section 2 and DER’s experience with informed curtailment performed in 2013 at TOTW will be used to develop specific informed curtailment procedures.
 - 3.3.3.2 Lost generation revenue resulting from informed curtailment is not included in the approximate \$600,000 per year cost cap.
 - 3.3.3.3 This measure shall be implemented (if warranted) within 18 months of the date of sentencing.
- 3.3.4 DER will test detection technologies at TOTW.
- 3.3.4.1 By March 15, 2014, DER will complete Tier 5 SRC radar proof-of-concept test with a written report of findings submitted to USFWS.
 - 3.3.4.2 DER will perform or evaluate additional radar study if (1) the technology advances beyond the capabilities learned in the proof-of-concept test conducted in 2012 and 2013, and (2) the Parties and USFWS agree that additional radar testing is warranted.
 - 3.3.4.3 Following the testing and analysis of the deterrent and detection technologies, DER will consider combining detection/deterrent technologies to fully automate curtailments or firing of deterrents if determined to reduce eagle fatalities and do not present significant non-wildlife-related conflicts.

- 3.4 As Experimental ACPs are scientifically proven to reduce GOEA/raptor fatalities at TOTW and costs are within the approximate \$600,000 per year cost cap for this MBCP to implement and operate, these measures will be implemented at CHW. If GOEA take(s) occurs at other sites covered under the Agreement, the Parties will confer to determine if such technologies are warranted at those sites.
 - 3.5 Other ACPs: Over the course of the five-year term of this MBCP, other Experimental ACPs may be developed, evaluated, or tested by others in the wind industry, academia, USFWS, or other entrepreneurs. If the cost of these EACPs are within the approximate \$600,000 per year cost cap and are mutually agreed to in writing by the Parties, these EACPs may be evaluated, tested, or implemented at the four covered sites.
4. **Monitoring:** Develop a robust monitoring plan in close coordination with the USFWS Wyoming ES Field Office to provide reasonable assurance that raptor/GOEAs fatalities resulting from the wind sites covered under the Agreement are found. The cost of the monitoring research and implementation is included in the approximate \$600,000 per year cost cap set forth in the Plea Agreement.
- 4.1 Research component:
 - 4.1.1 DER will conduct searcher-efficiency trials designed to specifically test and measure searcher efficiencies of raptors/GOEAs.
 - 4.1.2 DER will conduct carcass-persistence trials designed to specifically test and measure the carcass persistence of raptors and GOEAs.
 - 4.1.3 DER will develop new bias corrections specifically for GOEAs/raptors at these wind sites.
 - 4.1.4 DER will conduct the searcher efficiency and carcass persistence trials within 24 months from the date of sentencing and provide a report of this research to USFWS annually and upon completion.
 - 4.2 GOEA fatalities found on site(s)
 - 4.2.1 DER will notify USFWS within 24 hours of discovery of a GOEA fatality.
 - 4.2.2 DER will apply for, and submit applications for renewal of as necessary, a Special Use – Utility Permit (SPUT), pursuant to 50 CFR 21.27, which will authorize DER or its authorized agent to collect and preserve eagles and other migratory birds found dead or injured at that site. The USFWS will not unreasonably delay or condition the issuance and renewal of such permit(s). The conditions of the SPUT will be substantively similar to SPUTs that have been issued for other wind power facilities.

- 4.3 “Ornitect/Geotraverse” monitoring software:
 - 4.3.1 Roll out at all sites covered under the Agreement
 - 4.3.2 Provide raw data to USFWS and Department
 - 4.3.3 Date of searches
 - 4.3.4 Search tracks
 - 4.3.5 Data sheets of migratory birds discovered
 - 4.3.6 Photographs
 - 4.3.7 The use of the Ornitect/Geotraverse software for monitoring shall occur within 90 days from sentencing.
 - 4.3.8 The Ornitect/Geotraverse monitoring software may be replaced if better (user friendly, more accurate, etc.) and cost effective software is identified.

4.4 DER will continue monitoring GOEA and other migratory bird fatalities for the term of probation or until an Eagle Take Permit (ETP) (See Section 6) is issued. At the time of ETP issuance, the monitoring requirements in the ETP shall supersede the monitoring requirements in this Section 4.

5. **Compensatory Mitigation:** Per Section 15(b)(i)(3) of the Plea Agreement, DER shall make compensatory mitigation of GOEAs that are killed at the sites during the probation period and until an ETP is issued. This proposed mitigation framework will be based on take of GOEAs. It is understood by the Parties that compensatory mitigation for GOEAs, regardless of the method or technique, will also provide for compensatory mitigation of other migratory birds (e.g., power pole retrofits will reduce the electrocution risk to other raptors and migratory birds) and additional, separate compensatory mitigation for non-eagle migratory birds is not a requirement under this MBCP.

5.1 At each annual meeting of the Parties to discuss implementation and progress of the MBCP, the Parties will determine the method and type of compensatory mitigation required for take of GOEAs and other migratory birds that occurred at the sites during the probationary period. Compensatory mitigation requirements will be derived from the USFWS Resource Equivalency Analysis (REA) as outlined in the 2013 Eagle Conservation Plan Guidance – Module 1 Wind Energy (Stage 4) or other subsequent accepted analysis agreed to by the Parties. Six months prior to the end of the probationary period, the REA calculated monetary amount for each eagle confirmed to have been killed by DER’s infrastructure at their Wyoming wind power facilities will be promptly deposited by DER into a National Fish and Wildlife Foundation (NFWF) account set up for GOEA conservation activities or projects in Wyoming. The USFWS will set up account guidelines with the NFWF.

- 5.2 However, if the ECP is completed and an ETP is issued (See Section 6) prior to the end of the probationary period, the compensatory mitigation requirements contained in the ECP/ETP will take effect upon such permit issuance. As such, DER will be responsible for providing compensatory mitigation for all eagle fatalities that occur at the covered facilities from the date of sentencing to the effective date of ETP issuance. Compensatory mitigation for eagles killed or injured outside of an ETP will be paid to the NFWF account as specified above, separately at the end of the probationary period.
- 5.3 It is understood by the Parties that the neither the cost of compensatory mitigation required by this MBCP nor the cost of mitigation requirements outlined in the ECP/ETP is included in the approximate \$600,000 per year cost cap set forth in the Plea Agreement.
- 5.4 Power pole retrofits as outlined in the 2013 Eagle Conservation Plan Guidance will be the default method of compensatory mitigation if other acceptable compensatory mitigation methods are not determined by the Parties to be practicable, equally effective, and quantifiable.
- 5.5 During the probationary period, a minimum of two other compensatory mitigation techniques will be analyzed and reported to the Department and USFWS. These may include:
- 5.5.1 Habitat-based protection/enhancement
 - 5.5.2 Lead abatement
 - 5.5.3 Roadkill removal to reduce vehicle/eagle collisions
 - 5.5.4 This assessment of other compensatory mitigation will be completed within 24 months of sentencing.
6. **Eagle Conservation Plan/Eagle Take Permit:** Within 24 months of the date of sentencing, DER will develop ECPs and apply for and diligently pursue USFWS Programmatic ETPs for the CHW and TOTW wind projects. The development of the ECP will follow the 2013 Eagle Conservation Plan Guidance, which provides guidance on the elements of an ECP required for the issuance of an ETP for existing wind energy projects. The Stage 1 – 5 requirements of the ECP Guidance will be gathered from the BBCSs and this MBCP, specifically:
- a. Stage 1 of the ECP Development will be informed by Sections 1 and 2 of the MBCP
 - b. Stage 2 of the ECP Development will be informed by Sections 2 and 3 of the MBCP
 - c. Stage 3 of the ECP Development will be informed by Section 2 (d) of the MBCP
 - d. Stage 4 of the ECP Development will be informed by Sections 2 (d), 3, and 5 of the MBCP

e. Stage 5 of the ECP Development will be informed by Sections 3 and 4 of the MBCP

7. **Term of this MBCP:** This MBCP shall terminate upon the later of the expiration of the five-year probation period, or non-prosecution term set forth in the Plea Agreement.

ATTACHMENT A

STATEMENT OF FACTS

This Statement of Facts is incorporated by reference as part of the Plea Agreement between the Defendant, Duke Energy Renewables, Inc. and the United States Department of Justice, by and through the United States Attorney for the District of Wyoming and the Environment and Natural Resources Division, Environmental Crimes Section (together, the “Department”). Duke Energy Renewables hereby agrees and stipulates that the following information is true and accurate to the best of its knowledge. Duke Energy Renewables admits, accepts, and acknowledges that it is responsible for the acts and omissions of its officers, directors, employees, and agents as set forth below. If this matter were to proceed to trial, the Department would prove beyond a reasonable doubt, by admissible evidence, the facts alleged below and set forth in the criminal Information attached to this Agreement. This evidence would establish the following:

I. BACKGROUND

- A. Commercial wind power projects can cause the deaths of federally protected birds in four primary ways: collision with wind turbines, collision with associated meteorological towers, collision with, or electrocution by, associated electrical power facilities, and nest abandonment or behavior avoidance from habitat modification.
- B. Collision and electrocution risks from power lines (collisions and electrocutions) and guyed structures (collision) have been known to the utility and communication industries for decades, and specific methods of minimizing and avoiding the risks have been developed, in conjunction with agencies authorized to enforce federal avian protection

laws, such as the Migratory Bird Treaty Act (“MBTA”), 16 U.S.C. §§ 703-712, and the Bald and Golden Eagle Protection Act (“Eagle Act”), 16 U.S.C. §§ 668-668d.

- C. The risks from wind turbine impacts are less well understood. Understanding of these risks have continued to evolve since the U.S. Fish and Wildlife Service (“USFWS”) issued its first interim guidance about how wind project developers could avoid impacts to wildlife from wind turbines in 2003, and is more fully informed by the “tiered” approach outlined in the Land-Based Wind Energy Guidelines (“2012 LBWEGs”), developed with the wind industry starting in 2007 and released in final form by the USFWS on March 23, 2012.
- D. Due diligence during the pre-construction stage—as described in the 2003 Interim Guidelines and tiers one through three in the 2012 LBWEGs—in surveying the wildlife present in the proposed project area, determining whether the risk to wildlife is too high to justify proceeding and, if not, carefully siting turbines so as to avoid and minimize the risk as much as possible, is critically important for wind projects because, unlike electric distribution equipment and guyed towers, at the present time, no post-construction remedies, except “curtailment” (i.e., shut down), have been developed that can “render safe” a wind turbine placed in a location of high avian collision risk.
- E. In parts of Wyoming, golden eagles may be particularly susceptible to wind turbine blade collision by wind power facilities erected in areas of high eagle use.
- F. Golden eagles are not listed as threatened or endangered under U.S. law. However, they are one of the many species protected by the MBTA, and are more specifically protected under the Eagle Act, which provides a “Class A” misdemeanor penalty for the first offense of taking a bald or golden eagle “knowingly” or “with wanton disregard for the

consequences of his act.” Second and subsequent violations are “Class E” felonies.” In 2009, following “delisting” of the bald eagle under Endangered Species Act, USFWS enacted the “Eagle Permit Rule” to allow issuance of programmatic (ongoing) and individual (one-time) permits for the non-purposeful take of bald and golden eagles. USFWS issued draft guidance on development of an eagle conservation plan to obtain a programmatic take permit for a wind facility in 2011, which was finalized in April 2013. The MBTA provides for a Class “B” misdemeanor penalty for unpermitted takings of migratory birds. 16 U.S.C. §§ 703, 707. “Take” means “to pursue, hunt, shoot, wound, kill, trap, capture, or collect” or to attempt to do so. 50 C.F.R. § 10.12. “Kill” is not further defined. A list of bird species protected by the MBTA, including passerines, waterfowl, raptors (including golden eagles), and shorebirds, is found at 50 C.F.R. § 10.13. Criminal liability of corporations for violating the MBTA has been upheld in the Tenth Circuit. *See, e.g., United States v. Apollo Energies*, 611 F.3d 679, 683 (10th Cir. 2010); *United States v. Moon Lake Electric Ass’n, Inc.*, 45 F. Supp. 2d 1070 (D. Colo. 1999).

- G. There is currently no means or mechanism to acquire a programmatic permit under the MBTA to take a migratory bird from operation of an otherwise lawful activity, such as operation of a wind energy facility. However, as set forth in both the 2003 Interim Guidance and the 2012 LBWEGs, the USFWS Office of Law Enforcement focuses its resources on investigating and prosecuting those who take migratory birds without identifying and implementing reasonable and effective measures to avoid take, exercising enforcement and prosecutorial discretion regarding individuals and companies who make good-faith efforts to avoid the take of migratory birds.

- H. Counts One and Two of the Information each charge a violation of the MBTA's Class "B" misdemeanor "take" prohibition.

II. Duke Energy Renewables' Development Of, and Avian Takings At, the Campbell Hill Wind Project

- A. In 2006, Duke Energy Renewables' predecessor-in-interest, Tierra Energy, LLC began to develop a commercial wind power facility in Converse County, Wyoming, called the "Campbell Hill Wind Energy Facility" (hereinafter "Campbell Hill"). Duke Energy Renewables acquired Tierra Energy on May 29, 2007. The project, sited on private land used for sheep and cattle grazing, eventually comprised 66 1.5-megawatt General Electric wind turbines.
- B. Duke Energy Renewables initially hired consulting company Ecology and Environment, Inc. ("E&E"), based in Lancaster, New York, to conduct baseline wildlife studies for the project. In August 2008, the USFWS advised E&E to conduct multiple years of pre-and post-construction wildlife survey and monitoring in order to fully understand wildlife impacts associated with the project. This advice was in accord with the 2003 USFWS voluntary guidelines encouraging wind energy developers to make all feasible good-faith efforts in the siting and development of wind projects to avoid and minimize avian take at wind projects in order to earn MBTA and Eagle Act enforcement forbearance from the agency.
- C. In October 2008, Duke Energy Renewables' new wildlife consulting company, Western EcoSystems Technology, Inc. ("WEST") met with USFWS and reported observing two golden eagles frequenting the area near a recently-discovered eagle nest located within the Campbell Hill wind project boundary.

- D. In December 2008, USFWS informed WEST of the agency's concern regarding lack of data on bird use prior to turbine site selection and potential for high mortality at the Campbell Hill site. USFWS recommended selecting another project site or establishing non-disturbance buffer zones to protect nesting birds. The USFWS recommended collecting environmental resources data containing normal bird movements prior to determining turbine locations.
- E. In December 2008, Duke Energy Renewables issued WEST's wildlife study report for the Campbell Hill wind project, comprised of seven ground surveys conducted during a three-month period between September 8, 2008, and November 10, 2008, and noting the discovery of 29 raptor nests in and near the project area, but concluding there was no concentration of raptor use along ridges. The study estimated that of all migratory bird species utilizing the project area, golden eagles would likely experience the third-highest level of collision fatality from the project.
- F. In January 2009, Duke Energy Renewables applied to the Wyoming Industrial Siting Council for a permit authorizing the construction of the Campbell Hill wind project.
- G. In February 2009, USFWS informed Duke Energy Renewables that the agency continued to have concerns regarding impacts to avian wildlife as a result of Duke Energy Renewables' development of the Campbell Hill wind project.
- H. In April 2009, Duke Energy Renewables informed USFWS that construction of the Campbell Hill wind project had begun.
- I. On December 1, 2009, Duke Energy Renewables began commercial operation of the Campbell Hill wind project.

- J. Duke Energy Renewables began formal post-construction avian mortality monitoring in February 2010, following a USFWS-approved protocol using third-party contractors to search for avian carcasses potentially impacted by site operations. In addition, Duke Energy Renewables site personnel were trained by Duke Energy Renewables biologists to look for and report all bird mortalities to Duke Energy Renewables headquarters.
- K. Between March 2010 and October 10, 2013, Duke Energy Renewables voluntarily reported to USFWS the discovery of 58 migratory bird carcasses (including raptors, larks, sparrows, and others), near the meteorological towers and wind turbines at the Campbell Hill wind project. The parties stipulate that the condition and location of these carcasses is consistent with death caused by collision with a meteorological tower, guy wire, or turbine. In accordance with its commitment as incorporated into its Wyoming Industrial Siting permit, Duke Energy Renewables also reported to USFWS, within 24 hours of discovery, three golden eagle carcasses found near wind turbines at the Campbell Hill wind project in that same time period. These eagle carcasses have been examined and found to have sustained injuries consistent with collision with a wind turbine blade.

III. Duke Energy Renewables' Development Of, and Avian Takings At, the Top Of The World Wind Project

- A. In 2007, Duke Energy Renewables' predecessor in interest, Catamount Energy Corporation, began to develop a commercial wind power in Converse County, Wyoming, called the "Top of the World Wind Energy Facility" (hereinafter "Top of the World"). Duke Energy Renewables acquired Catamount in June 2008. The project, sited on private land used for sheep and cattle ranching, eventually comprised 66 1.5-megawatt General Electric wind turbine generators, and 44 2.3-megawatt Siemens wind turbine

generators. Duke Energy Renewables hired WEST to perform pre-construction wildlife surveying for the project.

- B. In August 2009, Duke Energy Renewables shared with USFWS the results of WEST's Wildlife Baseline Studies Report for the project, showing that golden eagles had the highest "exposure index" (exposure to collision fatality) of the avian species present in the area, and predicting 10 raptor takings per 100 megawatts of production per year (or 20 per year for the 200-megawatt project). USFWS advised Duke Energy Renewables there had been no prior coordination attempted between Duke Energy Renewables or WEST and the agency regarding wildlife survey methods employed or survey results at the project site.
- C. In November 2009, USFWS sent a letter to Duke Energy Renewables in response to the Wildlife Baseline Studies Report, noting that the studies were inadequate to allow for well-informed turbine site selection. USFWS also provided Duke Energy Renewables with the location of an eagle nest that was active in 2009 and which was 0.25 mile from a proposed transmission line in the project, and 0.5 mile from the nearest proposed turbine site.
- D. In March 2010, USFWS informed Duke Energy Renewables that avian survey results provided to the USFWS, thus far, consisted of data collected in 2008 and 2009 from only 5.6 square miles of the 37.2 square mile project area, and data collected from spring through fall in 2009 from the full project area. USFWS informed Duke Energy Renewables that its surveys may not be sufficient to determine how best to site turbines to avoid or minimize take of migratory birds, particularly eagles.

- E. In October 2010, Duke Energy Renewables began commercial operation of the Top of the World wind project.
- F. Between September 2010 and October 10, 2013, Duke Energy Renewables voluntarily reported to USFWS the discovery of 105 migratory bird carcasses (including raptors, larks, sparrows, and others), near the meteorological towers and wind turbines at the Top of the World wind project. The parties stipulate that the condition and location of these carcasses is consistent with death caused by collision with a meteorological tower, guy wire, or turbine. In accordance with its commitment as incorporated into its Wyoming Industrial Siting permit, Duke Energy Renewables also reported to USFWS, within 24 hours of discovery, 11 golden eagle carcasses found near wind turbines at the Top of the World wind project in that same time period. These eagle carcasses have been examined and found to have sustained injuries consistent with collision with a wind turbine blade.

IV. Duke Energy Renewables' Efforts to Minimize Avian Take at Campbell Hill and Top of the World Wind Projects.

- A. Duke Energy Renewables micro-sited several turbine arrays and individual turbines at both sites in response to sensitive wildlife resources. Duke Energy Renewables sited all wind turbines greater than one mile from active raptor nests discovered during the limited pre-construction wildlife surveys performed by WEST, with the exception of one turbine at Top of the World, which was located 0.91 mile from a golden eagle nest but out of "line of sight" from the nest.
- B. Duke Energy Renewables sited the overhead transmission lines greater than 0.25 mile from all raptor nests identified during WEST's limited pre-construction wildlife surveys. The transmission lines were constructed in accordance with the Suggested Practices of the Avian Power Line Interaction Committee (APLIC 2006) for raptor protection on

power lines, including perch discouragers on the top of the power poles. At Top of the World, the transmission line included Swan-Flight™ Diverters where the line spans Sand Creek, because raptor use is anticipated to be greater in the vicinity of Sand Creek than in upland areas. Electrocutation risk was eliminated at the facilities by burying the majority of the collector electric lines and fully bundling and insulating the rest.

- C. Duke Energy Renewables installed Bird-Flight™ Diverters on the guy wires supporting the permanent meteorological tower at Top of the World. At Campbell Hill, Duke Energy Renewables removed the meteorological towers in June 2012, which eliminated this source of avian mortality.
- D. Pursuant to its Wyoming Industrial Power Siting Permit and at the direction of the Technical Advisory Committee established under that permit, Duke Energy Renewables has conducted three years of post-construction monitoring at Campbell Hill and two years of post-construction monitoring at Top of the World. The third year of post-construction monitoring at Top of the World is ongoing. Duke Energy Renewables also conducted supplemental golden eagle observation surveys at Top of the World designed to evaluate the extent of spatial use in the vicinity of turbines in Winter and Spring 2012. In addition to the formal post-construction monitoring, Duke Energy Renewables voluntarily implemented a formal Wildlife Incident Monitoring and Reporting System (“WIMRS”), an internally-developed protocol consisting of trained site personnel performing periodic avian carcass searches in conjunction with their normal site duties coupled with a formal internal reporting system to track any findings.
- E. In 2011, Duke Energy Renewables began to develop Avian and Bat Protection Plans for the Campbell Hill and Top of the World wind projects, which were subsequently

converted and updated to Bird and Bat Conservation Strategies (“BBCSs”) at the recommendation of the 2012 LBWEGs. Also as outlined in the 2012 LBWEGs, Duke Energy Renewables has met with USFWS representatives periodically to discuss adaptive management measures that might reduce avian mortality, especially golden eagle deaths, that had been occurring at the projects.

- F. As part of these BBCSs, and as part of its adaptive management response to the eagle mortalities, Duke Energy Renewables has initiated a proof-of-concept radar project where it has deployed a complex radar system at Top of the World, aimed to test the radar’s effectiveness in detecting the presence of large birds/eagles in the project area that are flying within the rotor-swept altitude with the potential to trigger the shutdown (“curtailment”) of nearby turbines. Duke Energy Renewables is continuing to test the effectiveness of this system. The cost of this proof-of-concept radar project has exceeded \$750,000.
- G. Duke Energy Renewables has also voluntarily implemented daytime curtailment, including daylight-hour full curtailment and “informed curtailment” based on biologist observation, of several turbines at Top of the World that are located in areas of higher eagle use. These curtailments have resulted in significant generation loss and associated revenue loss to Duke Energy Renewables. Since the implementation of the radar and other curtailment measures, no eagle fatalities have been discovered by Duke Energy Renewables at Top of the World. Duke Energy Renewables has implemented other adaptive management measures including removal of attractants such as carrion (including dead livestock) and limiting vehicle operation during the evenings to avoid disturbing ground-roosting eagles. Duke Energy Renewables has agreed to continue

fatality monitoring through its WIMRS program or other means at both wind projects beyond the requirements of the Wyoming Industrial Siting Permit.

- H. A subsequent, stand-alone Migratory Bird Compliance Plan is contemplated as a condition of probation and will build on these initial steps and contain a comprehensive suite of actions, research and mitigation aimed at minimizing, to the maximum degree practicable, the risk posed to avian wildlife by the wind turbines at Campbell Hill and Top of the World and to compensate for future eagle takes, should they occur. The government credits the efforts taken by Duke Energy Renewables so far in this regard, along with Duke Energy Renewables' willingness to meet and discuss these measures with USFWS and the U.S. Department of Justice. But for such cooperation, the government would seek additional charges and substantially greater fine amounts.
- I. Both the Campbell Hill Wind Project and Top of the World wind projects were developed, constructed, and placed into commercial operation several years after USFWS issuance of the 2003 interim wind energy development guidelines, but prior to the final 2012 LBWEGs and final eagle conservation plan guidance.
- J. The parties agree that the evidence described herein indicates that the takings of eagles and other migratory birds by Duke Energy Renewables at its Campbell Hill and Top of the World wind projects were committed knowingly, inasmuch as the company knew from WEST's pre-construction wildlife surveys that unauthorized avian fatalities would likely occur as the proximate result of its construction and operation of the projects, and failed to take all reasonable steps prior to operation necessary to avoid and minimize such takings. The Department believes the evidence in this case would support charging and conviction under both the MBTA and the Eagle Act. However, the Department has

exercised its discretion to charge Duke Energy Renewables with two misdemeanor violations of the MBTA due to Duke Energy Renewables' voluntary cooperation during the investigation of this case, its willingness to acknowledge the facts contained herein and enter into the Plea Agreement, the company's voluntary reporting of unpermitted avian takes, and its significant efforts to minimize and mitigate for past and future takes of golden eagles and other migratory birds at its wind power facilities in Wyoming.

- K. The Department and USFWS believe, based on interactions with Duke Energy Renewables' counsel and management in the past 10 months, and the facts discussed herein, that the defendant company has undergone a significant beneficial change in its approach to safeguarding public wildlife resources in the development and operation of its industrial sites in Wyoming.

V. Duke Energy Renewables' Other Wyoming Wind Facilities

- A. In addition to the Top of the World and Campbell Hill facilities, Duke Energy Renewables owns and operates two other wind power facilities in Wyoming: Happy Jack and Silver Sage.
- B. Happy Jack is located approximately eight miles west of Cheyenne in Laramie County. It consists of 14 wind turbines for a total generating capacity of 29.4 megawatts. Because the facility required an interconnection with facilities under the jurisdiction of the Western Area Power Administration, it triggered the requirements of the National Environmental Policy Act, including the preparation of an environmental assessment.
- C. To support the analysis in the environmental assessment, Duke Energy Renewables and its predecessors conducted preconstruction surveys in Fall 2006 and Spring 2007. These surveys indicated that risks to migratory birds and raptors, including golden eagles, were

low. The results of these surveys were shared with the USFWS, which raised no siting concerns about the location of Happy Jack. USFWS recommended standard best management practices for design and operation of the facility, which Duke Energy Renewables implemented. It also requested two years of post-construction mortality monitoring, which Duke Energy Renewables performed.

- D. Duke Energy Renewables commenced commercial operations at Happy Jack in September 2008. Despite the relatively low use of the site by migratory birds, Duke Energy Renewables discovered 20 migratory bird carcasses, all songbirds, in its post-construction surveys. Duke Energy Renewables shared the results of these surveys with USFWS.
- E. Silver Sage is located immediately adjacent to the Happy Jack facility, approximately 10 miles west of Cheyenne in Laramie County. It consists of 20 wind turbines for a total generating capacity of 42 megawatts.
- F. Duke Energy Renewables conducted raptor migration and point-count surveys in September and October 2008 and raptor nest surveys in January and February 2009. These surveys confirmed that species composition, avian use, and habitat at the Silver Sage site were very similar to the Happy Jack site and that the Silver Sage site also posed low risk to sensitive and migratory avian species.
- G. Duke Energy Renewables commenced commercial operations at Silver Sage in October 2009. At the request of USFWS, Duke Energy Renewables conducted two years of post-construction mortality monitoring at Silver Sage. During these monitoring efforts, Duke Energy Renewables discovered four migratory bird carcasses, three songbirds and one waterfowl. It shared these monitoring results with USFWS.

ATTACHMENT B

MIGRATORY BIRD COMPLIANCE PLAN (“MBCP”)

An element of the Plea Agreement (Agreement) between Duke Energy Renewables, Inc. (DER) and the United States Department of Justice (Department):

1. **Bird and Bat Conservation Strategy:** DER shall revise the Bird and Bat Conservation Strategies (BBCSs) for each the four wind sites covered under the Agreement (Happy Jack - HJW, Silver Sage - SSW, Campbell Hill - CHW and Top of the World - TOTW) in close coordination with the U.S. Fish and Wildlife Service (USFWS), Wyoming Ecological Services Field Office. The revised BBCSs will conform and adhere to the 2012 USFWS Land-Based Wind Energy Guidelines (LBWEGs) and include a thorough description and analysis of each Tier of the LBWEGs. Per Chapter 9 of the LBWEGs, the BBCS can be written and revised in stages, over time, as analysis and studies are undertaken for each Tier. The Parties contemplate that, pursuant to Chapter 9 of the LBWEG, USFWS review of or discussion with a developer concerning its BBCSs is advisory only, does not result in approval or disapproval of the BBCS by the USFWS, and does not constitute a federal agency action subject to the National Environmental Policy Act or other federal law applicable to such an action. DER and the USFWS will both exercise due diligence and close coordination to ensure the BBCSs are meaningful, useful documents designed to increase understanding of migratory bird use at the project areas and avoid their take, where possible.
 - 1.1 It is understood by the Department and DER (collectively referred to as “the Parties”) that these projects were all developed and constructed and became operational prior to the finalization of the LBWEGs so information and data for Tiers 1-4 may be incomplete and potentially not in full adherence with the LBWEGs. However, some elements of Tiers 1-5 have been collected and shall be presented in the BBCSs in order to inform subsequent steps and measures to be included in the BBCSs going forward.
 - 1.2 It is understood by the Parties that each of the BBCSs is (1) a “life of project” document; (2) a living document that is updated and revised periodically based on Tiers being completed and as new information, technologies, and understanding of wind projects impacts to wildlife resources are developed; and (3) a separate, distinct document from this MBCP.
 - 1.3 It is understood by the Parties that the studies, surveys, data collection, practicable avoidance, minimization, and mitigation measures (if necessary), as well as the

Eagle Conservation Plan (ECP) (See Section 6), and other information resulting from the implementation of this MBCP shall be incorporated into the BBCSs throughout the life of the projects.

1.4 The initial revision of the BBCSs shall be completed within 120 days from the date of sentencing. It is understood by the Parties that following this initial update of the BBCSs, the BBCSs may be changed, revised, or updated when done in close coordination with the USFWS. Any revisions or updates the BBCSs shall continue to conform to the LBWEGs.

1. **Tier 5 Golden Eagle Analysis:** At the TOTW and CHW sites, DER has collected a significant amount of Tier 2, 3, 4, and 5 data, including:

- Pre-construction agency consultation (Tier 2)
- Pre-construction avian and eagle use surveys (Tier 3)
- Pre-construction raptor nest surveys (Tier 3)
- Pre-construction eagle use surveys (Tier 3)
- Post-construction eagle use surveys (Tier 4)
- Post-construction mortality studies of birds and bats by a third party (Tier 4a)
- Post-construction incidental observations, and mortality self monitoring (Wildlife Incident Monitoring and Reporting System) (Tier 4a)
- Post-construction radar proof of concept (Tier 5)
- Post-construction informed curtailment (Tier 5)
- Post-construction audible deterrent testing (Tier 5)

2.1 With concurrence from the USFWS that aforementioned data are adequate to inform decisions, these Tier 1 – 5 surveys, studies, and data-collection accomplished to date, the most significant issue, and thus the focus of this MBCP, shall be on golden eagles (GOEA) at TOTW and CHW.

2.2 Within 12 months from the date of sentencing, DER will conduct an analysis of the existing Tier 2, 3, 4, and 5 data. This analysis shall include:

- 2.2.1 GOEAs temporal (year-to-year, seasonal, and time-of-day) and spatial use of the TOTW and CHW sites.
- 2.2.2 Risk profiles of GOEA resident breeders, new resident fledglings, migratory/floaters, age classes.
- 2.2.3 Behavioral and site-specific risk drivers (hunting; directional/destination flying; perching – including flushing from perch; migration; prey preference, abundance, and cycles; topography; thermal use; wind speed/direction; precipitation [including snow cover]; and other site-specific factors).

- 2.2.4 Predicted estimated take using USFWS current eagle-take estimating model and compare the model estimates with the documented take at the sites.
- 2.3 It is understood by the Parties:
- 2.3.1 The initial analysis will use existing studies, surveys, and data.
 - 2.3.2 Additional data collected in the first 24 months of the probation term will be used to update this analysis and be included in the ECP development (see Section 6).
 - 2.3.3 At the end of the probation period, the additional data collected over the term of the probation shall be included in the site-specific BBCSs.
3. **Experimental Advanced Conservation Practices**: Based on the studies, surveys, and data collected at CHW and TOTW and adjusted based on Section 2 above, DER shall implement specific measures and actions on the sites to avoid and minimize impacts to eagles and other migratory birds. These measures and actions will be implemented incrementally as outlined below over the five-year probation period and shall include the continuation of measures and actions already in place to avoid and minimize eagle take.
- 3.1 DER will implement the following measures at the four sites (HJW, SSW, CHW, TOTW):
 - 3.1.1 Immediately upon the date of sentencing, DER will effect prompt removal or burying of carrion (livestock or wildlife) from the sites upon discovery to remove the potential attraction to GOEAs and other carrion-eating avifauna. This measure shall be implemented immediately upon the date of sentencing.
 - 3.1.2 Within 12 months of sentencing, DER will conduct survey, assessment, and ultimate removal or modification of manmade habitat features that may harbor lagomorphs (rock piles, debris piles, etc.) or fossorial mammals.
 - 3.2 Best Management Practices and other single-event actions to be implemented at TOTW.
 - 3.2.1 Within 90 days of sentencing, and thereafter at a frequency of at least weekly, DER will effect the removal of roadkill carcasses along SR 95 from the town of Glenrock to five miles east of the TOTW site. This measure shall be contingent on approval by the Wyoming Game and Fish Department.
 - 3.2.2 Within 12 months of sentencing, DER will remove the two guyed meteorological towers.
 - 3.2.3 Adjusted Wind Turbine Operation (AWTO): To reduce impacts to nocturnal flying wildlife, DER will adjust wind turbine operations at TOTW

so that all wind turbines rotate at less than 2 rpm during periods when the 10-minute-average ambient wind speed is below the manufacturer's designed turbine wind cut-in speed. The AWTO shall occur from March 15 to October 15 from ½ hour before sunset to ½ hour after sunrise. If it is determined by DER that this mode of operation is causing or likely to cause significant equipment damage (i.e., bearing flattening, sub-optimal lubrication, etc.) based on its experience with the Siemens wind turbines at other wind sites or information provided by Siemens, this AWTO mode will be suspended and the Parties will confer to discuss other potential turbine operational modes that can reduce impacts to nocturnal flying wildlife. Note that the GE wind turbine generators at CHW and TOTW were designed for this operation and already operate in this mode. This measure shall be implemented by March 15, 2015.

3.3 Ongoing Experimental Advanced Conservation Practices (EACPs) implemented at TOTW. These actions and measures will be driven by a robust adaptive management framework. These EACPs, if proven to effectively reduce eagle fatalities beyond the baseline condition, will be considered for inclusion into the ECP (see Section 6). This reduction of take will be measured against a baseline of estimated take resulting from running the current USFWS eagle fatality model as required in Section 2.1.4 above. In addition, the cost of implementation, testing, evaluation, and operation of these ACPs is included in the approximate \$600,000 per year cost cap set forth in the Plea Agreement. The following experimental ACPs, and any other not yet defined ACPs that are implemented pursuant to Section 3.5 below, will be identified and prioritized for implementation in coordination with the USFWS.

3.3.1 DER will conduct the following visual response/deterrent testing at TOTW.

3.3.1.1 DER shall work with the manufacturer and other partners to test the efficacy of an ultraviolet light system that has been preliminarily shown to instill involuntary and voluntary reflexes in various birds, including bald eagles.

3.3.1.2 DER will evaluate blade painting (in UV colors) literature and study results conducted at other wind sites.

3.3.1.3 DER will provide a report of visual response/deterrent testing and/or evaluation to USFWS upon completion.

3.3.1.4 This visual deterrent testing and evaluation shall be completed within 12 months from the date of sentencing.

3.3.2 DER will conduct the following audible deterrent testing and/or evaluation at TOTW.

- 3.3.2.1 DER will evaluate the effectiveness of audible sound deterrents at TOTW. The deterrents may be tested for the first time at TOTW and/or may be audible sound deterrents that have been fully tested at other similar wind sites.
 - 3.3.2.2 DER will provide a report of audible sound deterrent testing and/or evaluation to USFWS upon completion.
 - 3.3.2.3 These audible deterrent tests or evaluations shall be completed within 12 months from the date of sentencing.
- 3.3.3 “Informed Curtailment” at TOTW:
- 3.3.3.1 If the visual response/deterrent tests and audible sound deterrents are found to be ineffective at reducing eagle collisions, to be cost prohibitive to install and operate, or to create other significant non-wildlife-related conflicts (i.e., noise impacts to nearby residents, frighten livestock, etc.), DER will implement informed curtailment, using biological monitors who will have the capability to curtail turbine(s) when eagles are flying near wind turbines and exhibiting risky behavior. Data and information gathered in Section 2 and DER’s experience with informed curtailment performed in 2013 at TOTW will be used to develop specific informed curtailment procedures.
 - 3.3.3.2 Lost generation revenue resulting from informed curtailment is not included in the approximate \$600,000 per year cost cap.
 - 3.3.3.3 This measure shall be implemented (if warranted) within 18 months of the date of sentencing.
- 3.3.4 DER will test detection technologies at TOTW.
- 3.3.4.1 By March 15, 2014, DER will complete Tier 5 SRC radar proof-of-concept test with a written report of findings submitted to USFWS.
 - 3.3.4.2 DER will perform or evaluate additional radar study if (1) the technology advances beyond the capabilities learned in the proof-of-concept test conducted in 2012 and 2013, and (2) the Parties and USFWS agree that additional radar testing is warranted.
 - 3.3.4.3 Following the testing and analysis of the deterrent and detection technologies, DER will consider combining detection/deterrent technologies to fully automate curtailments or firing of deterrents if determined to reduce eagle fatalities and do not present significant non-wildlife-related conflicts.

- 3.4 As Experimental ACPs are scientifically proven to reduce GOEA/raptor fatalities at TOTW and costs are within the approximate \$600,000 per year cost cap for this MBCP to implement and operate, these measures will be implemented at CHW. If GOEA take(s) occurs at other sites covered under the Agreement, the Parties will confer to determine if such technologies are warranted at those sites.
 - 3.5 Other ACPs: Over the course of the five-year term of this MBCP, other Experimental ACPs may be developed, evaluated, or tested by others in the wind industry, academia, USFWS, or other entrepreneurs. If the cost of these EACPs are within the approximate \$600,000 per year cost cap and are mutually agreed to in writing by the Parties, these EACPs may be evaluated, tested, or implemented at the four covered sites.
4. **Monitoring:** Develop a robust monitoring plan in close coordination with the USFWS Wyoming ES Field Office to provide reasonable assurance that raptor/GOEAs fatalities resulting from the wind sites covered under the Agreement are found. The cost of the monitoring research and implementation is included in the approximate \$600,000 per year cost cap set forth in the Plea Agreement.
- 4.1 Research component:
 - 4.1.1 DER will conduct searcher-efficiency trials designed to specifically test and measure searcher efficiencies of raptors/GOEAs.
 - 4.1.2 DER will conduct carcass-persistence trials designed to specifically test and measure the carcass persistence of raptors and GOEAs.
 - 4.1.3 DER will develop new bias corrections specifically for GOEAs/raptors at these wind sites.
 - 4.1.4 DER will conduct the searcher efficiency and carcass persistence trials within 24 months from the date of sentencing and provide a report of this research to USFWS annually and upon completion.
 - 4.2 GOEA fatalities found on site(s)
 - 4.2.1 DER will notify USFWS within 24 hours of discovery of a GOEA fatality.
 - 4.2.2 DER will apply for, and submit applications for renewal of as necessary, a Special Use – Utility Permit (SPUT), pursuant to 50 CFR 21.27, which will authorize DER or its authorized agent to collect and preserve eagles and other migratory birds found dead or injured at that site. The USFWS will not unreasonably delay or condition the issuance and renewal of such permit(s). The conditions of the SPUT will be substantively similar to SPUTs that have been issued for other wind power facilities.

- 4.3 “Ornicept/Geotraverse” monitoring software:
 - 4.3.1 Roll out at all sites covered under the Agreement
 - 4.3.2 Provide raw data to USFWS and Department
 - 4.3.3 Date of searches
 - 4.3.4 Search tracks
 - 4.3.5 Data sheets of migratory birds discovered
 - 4.3.6 Photographs
 - 4.3.7 The use of the Ornicept/Geotraverse software for monitoring shall occur within 90 days from sentencing.
 - 4.3.8 The Ornicept/Geotraverse monitoring software may be replaced if better (user friendly, more accurate, etc.) and cost effective software is identified.

4.4 DER will continue monitoring GOEA and other migratory bird fatalities for the term of probation or until an Eagle Take Permit (ETP) (See Section 6) is issued. At the time of ETP issuance, the monitoring requirements in the ETP shall supersede the monitoring requirements in this Section 4.

5. **Compensatory Mitigation:** Per Section 15(b)(i)(3) of the Plea Agreement, DER shall make compensatory mitigation of GOEAs that are killed at the sites during the probation period and until an ETP is issued. This proposed mitigation framework will be based on take of GOEAs. It is understood by the Parties that compensatory mitigation for GOEAs, regardless of the method or technique, will also provide for compensatory mitigation of other migratory birds (e.g., power pole retrofits will reduce the electrocution risk to other raptors and migratory birds) and additional, separate compensatory mitigation for non-eagle migratory birds is not a requirement under this MBCP.

5.1 At each annual meeting of the Parties to discuss implementation and progress of the MBCP, the Parties will determine the method and type of compensatory mitigation required for take of GOEAs and other migratory birds that occurred at the sites during the probationary period. Compensatory mitigation requirements will be derived from the USFWS Resource Equivalency Analysis (REA) as outlined in the 2013 Eagle Conservation Plan Guidance – Module 1 Wind Energy (Stage 4) or other subsequent accepted analysis agreed to by the Parties. Six months prior to the end of the probationary period, the REA calculated monetary amount for each eagle confirmed to have been killed by DER’s infrastructure at their Wyoming wind power facilities will be promptly deposited by DER into a National Fish and Wildlife Foundation (NFWF) account set up for GOEA conservation activities or projects in Wyoming. The USFWS will set up account guidelines with the NFWF.

- 5.2 However, if the ECP is completed and an ETP is issued (See Section 6) prior to the end of the probationary period, the compensatory mitigation requirements contained in the ECP/ETP will take effect upon such permit issuance. As such, DER will be responsible for providing compensatory mitigation for all eagle fatalities that occur at the covered facilities from the date of sentencing to the effective date of ETP issuance. Compensatory mitigation for eagles killed or injured outside of an ETP will be paid to the NFWF account as specified above, separately at the end of the probationary period.
- 5.3 It is understood by the Parties that the neither the cost of compensatory mitigation required by this MBCP nor the cost of mitigation requirements outlined in the ECP/ETP is included in the approximate \$600,000 per year cost cap set forth in the Plea Agreement.
- 5.4 Power pole retrofits as outlined in the 2013 Eagle Conservation Plan Guidance will be the default method of compensatory mitigation if other acceptable compensatory mitigation methods are not determined by the Parties to be practicable, equally effective, and quantifiable.
- 5.5 During the probationary period, a minimum of two other compensatory mitigation techniques will be analyzed and reported to the Department and USFWS. These may include:
 - 5.5.1 Habitat-based protection/enhancement
 - 5.5.2 Lead abatement
 - 5.5.3 Roadkill removal to reduce vehicle/eagle collisions
 - 5.5.4 This assessment of other compensatory mitigation will be completed within 24 months of sentencing.
6. **Eagle Conservation Plan/Eagle Take Permit:** Within 24 months of the date of sentencing, DER will develop ECPs and apply for and diligently pursue USFWS Programmatic ETPs for the CHW and TOTW wind projects. The development of the ECP will follow the 2013 Eagle Conservation Plan Guidance, which provides guidance on the elements of an ECP required for the issuance of an ETP for existing wind energy projects. The Stage 1 – 5 requirements of the ECP Guidance will be gathered from the BBCSs and this MBCP, specifically:
 - a. Stage 1 of the ECP Development will be informed by Sections 1 and 2 of the MBCP
 - b. Stage 2 of the ECP Development will be informed by Sections 2 and 3 of the MBCP
 - c. Stage 3 of the ECP Development will be informed by Section 2 (d) of the MBCP
 - d. Stage 4 of the ECP Development will be informed by Sections 2 (d), 3, and 5 of the MBCP

e. Stage 5 of the ECP Development will be informed by Sections 3 and 4 of the MBCP

7. **Term of this MBCP:** This MBCP shall terminate upon the later of the expiration of the five-year probation period, or non-prosecution term set forth in the Plea Agreement.