

TECHNICAL MEMORANDUM

To: Amber Schorg, U.S. Fish and Wildlife Service–Illinois-Iowa Field Office

Prepared by: Jesse Leckband, MidAmerican Energy Company

Date: March 31, 2022

RE: **TE41434D-0 Compliance Monitoring Annual Report**

INTRODUCTION

MidAmerican Energy Company (MidAmerican), currently operates the 21 Wind I-X wind energy facilities (hereafter referred to individually as by facility name and collectively as Projects or Wind I-X) totaling more than 4,040 megawatts of wind generation capacity in Iowa. Operation of these facilities, in addition to the Iowa State Fair turbine, is a Covered Activity under MidAmerican’s Wind I-X Habitat Conservation Plan (HCP). MidAmerican’s Incidental Take Permit (ITP) TE41434D-0 was issued by the U.S. Fish and Wildlife Service (USFWS) on November 20, 2019, at which point MidAmerican began to implement MidAmerican’s Wind I-X HCP (MidAmerican 2018) in compliance with the ITP. The goal of the take compliance monitoring is to assess the level of incidental take of the Covered Species in the HCP (Section 5.1): Indiana bat (*Myotis sodalis*), northern long-eared bat (*M. septentrionalis*), little brown bat (*M. lucifugus*), tri-colored bat (*Perimyotis subflavus*), and bald eagle (*Haliaeetus leucocephalus*).

This memo provides a summary of take compliance bat intensive monitoring and bald eagles found between January 1, 2021, and December 31, 2021. Operations and maintenance (O&M) searcher efficiency (SEEF) trials conducted during the first permit year (November 20, 2019 – November 19, 2020) and the second permit year (November 20, 2020 – November 19, 2021) are also summarized in this memo.

BAT INTENSIVE MONITORING SUMMARY

Western EcoSystems Technology, Inc. (WEST) conducted the second year of bat intensive monitoring from July 1 – October 15, 2021, in accordance with the HCP’s compliance monitoring protocol (Section 5.41; Appendix K) and the ITP conditions (Conditions E and F). Standardized carcass searches were conducted on the entire gravel turbine pad and all gravel access roads within a 100-meter (m; 328-foot) radius of each turbine. Bias trials were conducted to measure SEEF and carcass persistence rates.

During the monitoring period, 29,690 searches were conducted and 1,026 bat carcasses were found (Table 1). One Covered Bat Species was found: a tri-colored bat carcass was found at Rolling Hills on August 23, 2021. Initially identified as a different bat species, the carcass was identified and confirmed as a tri-colored bat by WEST bat biologists on August 27, 2021. USFWS was notified of the field identification on August 27, 2021. The Covered Species identity was unambiguously confirmed using DNA analysis on September 29, 2021. The tri-colored bat carcass is preserved at the Ida Grove I Wind Energy Facility (Ida Grove I) O&M building freezer. To measure detection and removal bias, 519 SEEF carcasses were placed and 400 carcass persistence trials were conducted during the 2021 compliance-monitoring year.

Table 1. Total Number of Bat Carcasses Discovered during Bat Intensive Monitoring at the MidAmerican Energy Company's Iowa Wind I-X Wind Energy Facilities from July 1 to October 15, 2021.

Facility	Eastern Red Bat	Hoary Bat	Big Brown Bat	Silver-haired Bat	Evening Bat	Unidentified Bat ²	Unidentified Lasiurus Bat ²	Tri-colored Bat ¹	Little Brown Bat ¹	Indiana Bat ¹	Northern Long-eared Bat ¹	Total
Adair	16	22	2	1	0	0	0	0	0	0	0	41
Adams	21	11	5	2	0	0	0	0	0	0	0	39
Carroll	21	10	7	6	0	0	0	0	0	0	0	44
Century	40	49	4	6	1	0	0	0	0	0	0	100
Charles City	21	5	3	5	0	0	0	0	0	0	0	34
Eclipse	15	11	2	1	0	0	0	0	0	0	0	29
Highland	39	19	9	6	0	0	0	0	0	0	0	73
Ida Grove I	23	15	15	13	0	1	0	0	0	0	0	67
Intrepid	29	26	9	3	2	0	0	0	0	0	0	69
Laurel	17	6	3	7	1	0	0	0	0	0	0	34
Lundgren	37	19	22	3	1	0	0	0	0	0	0	82
Macksburg	10	4	3	1	1	0	0	0	0	0	0	19
Morning Light	0	4	0	2	1	0	0	0	0	0	0	7
O'Brien	18	16	11	2	0	0	0	0	0	0	0	47
Pomeroy	37	38	5	11	0	0	0	0	0	0	0	91
Rolling Hills	30	17	14	4	1	0	0	1	0	0	0	67
Victory	21	14	4	3	0	1	0	0	0	0	0	43
Vienna	19	16	4	11	0	0	0	0	0	0	0	50
Walnut	25	18	9	2	3	0	0	0	0	0	0	57
Wellsburg	15	14	1	2	0	0	1	0	0	0	0	33
Total	454	334	132	91	11	2	1	1	0	0	0	1,026

¹Covered species included in the HCP

²Live, injured bat; therefore, tissue sample for DNA identification not possible

OPERATIONS AND MAINTENANCE SCANS SUMMARY

MidAmerican trained O&M technicians in carcass search and identification methods in accordance with the HCP's compliance monitoring protocol (Section 5.4.2; Appendix K) and the ITP conditions (Conditions E and F). Trained O&M technicians scanned roads, pads, and a surrounding 100-m radius plot for bat and eagle carcasses at each wind turbine every month when technicians visited for regular maintenance.

O&M scans were conducted between January 1 and December 31, 2021, during which a total of eight eagle carcasses were found: one at Rolling Hills, three at Carroll, one at Ida Grove I, one at Pomeroy, and two at Adair (Table 2). No Covered Bat Species were found during O&M scans.

One eagle carcass was found by O&M staff conducting an eagle scan at Rolling Hills Turbine 191 on February 1, 2021. The USFWS was verbally notified of the find on February 1, 2021. The carcass is preserved at the Rolling Hills O&M building freezer, where it will remain until further arrangements can be made to transport the carcass to the National Eagle Repository or other location at the directive of the USFWS.

Three eagle carcasses were found at Carroll by O&M staff conducting eagle scans. The first eagle carcass was discovered at Turbine 6 on March 8, 2021. A second eagle carcass was discovered on March 8, 2021, at Turbine 30. A third eagle carcass was discovered on March 9, 2021, at Turbine 75. The USFWS was verbally notified of the three eagle carcasses on March 9, 2021. The carcasses are preserved at the Carroll O&M building freezer until further arrangements can be made to transport the carcasses to the National Eagle Repository or other location at the directive of the USFWS.

One eagle carcass was found at Ida Grove I by O&M staff conducting eagle scans at Turbine 44 on March 17, 2021. The USFWS was verbally notified of the find on March 17, 2021, and the carcass is preserved at the Ida Grove I O&M building freezer until further arrangements can be made to transport the carcass to the National Eagle Repository or other location at the directive of the USFWS.

One eagle carcass was found at Pomeroy by O&M staff conducting eagle scans at Turbine 146 on March 31, 2021. The USFWS was verbally notified of the find on March 31, 2021. The carcass is preserved at the Pomeroy O&M building freezer until arrangements can be made to transport the carcasses to the National Eagle Repository or other location at the directive of the USFWS.

Two eagle carcasses were found at the Adair Wind. The first eagle carcass was found by O&M personnel conducting a routine visual scan at Turbine 36 on May 7, 2021. The USFWS was notified of the find on May 7, 2021. A second eagle carcass was discovered by a WEST Biological Field Technician conducting a scheduled search for bat intensive monitoring at Turbine 11 on September 23, 2021. The USFWS was notified of the find on September 23, 2021. Both carcasses are preserved at the Adair O&M building freezer until further arrangements can be made to transport the carcasses to the National Eagle Repository or other location at the directive of the USFWS.

Table 2. Bald Eagle Carcasses Discovered during Operation and Maintenance (O&M) Scans and as Incidental Finds at MidAmerican Energy Company’s Iowa Wind I-X Wind Energy Facilities from January 1 to December 31, 2021.

Facility	O&M Scans	Incidental Finds	Total
Adair	1	1 ¹	2
Adams	0	0	0
Carroll	3	0	3
Century	0	0	0
Charles City	0	0	0
Eclipse	0	0	0
Highland	0	0	0
Ida Grove I	1	0	1
Intrepid	0	0	0
Laurel	0	0	0
Lundgren	0	0	0
Macksburg	0	0	0
Morning Light	0	0	0
O'Brien	0	0	0
Pomeroy	1	0	1
Rolling Hills	1	0	1
Victory	0	0	0
Vienna	0	0	0
Walnut	0	0	0
Wellsburg	0	0	0
Total	7	1	8

¹Found during bat intensive monitoring scheduled searches.

OPERATIONS AND MAINTENANCE SEARCHER EFFICIENCY

MidAmerican is currently collecting data to measure SEEF of O&M technicians at each Project. SEEF trials were conducted in the same areas as O&M scans. SEEF estimates will be used to adjust eagle carcass counts into take estimates. SEEF trials were stratified by O&M building, under the assumption that crews associated with each O&M building conducted scans at all facilities that are serviced by that crew. WEST placed 161 SEEF carcasses (i.e., turkey decoys) for O&M technicians during the 2019 – 2020 permit year. Of those, 85 were available to be found and 19 were found, resulting in a SEEF rate of 0.22. During the 2020 – 2021 permit year, WEST placed 355 trial carcasses, of which 135 were available to be found and 48 were found, resulting in a SEEF rate of 0.36 (Table 3).

Table 3. Searcher Efficiency Trial Results by Operations and Maintenance (O&M) Group at MidAmerican Energy Company's Iowa Wind I-X Wind Energy Facilities for the 2019 – 2020 and 2020 – 2021 Permit Years.

O&M Building	Facilities	Placed	Available	Found	Proportion Available	Searcher Efficiency
2019 – 2020 Permit Year						
Adair	Adair, Eclipse, Morning Light	20	13	2	0.65	0.15
Adams	Adams	0	0	0	0	0
Carroll	Carroll, Victory	10	3	0	0.30	0
Century	Century	20	14	7	0.70	0.50
Charles City	Charles City	9	6	0	0.67	0
Ida Grove	Ida Grove I	3	0	0	0	0
Intrepid	Intrepid	11	4	2	0.36	0.50
Lundgren	Lundgren	17	10	1	0.59	0.10
Macksburg	Macksburg	13	7	4	0.54	0.57
Marshalltown	Laurel, Vienna I/II	10	6	0	0.60	0
Pomeroy	Pomeroy	10	7	1	0.70	0.14
Primghar	Highland, O'Brien	17	8	2	0.47	0.25
Rolling Hills	Rolling Hills	12	7	0	0.58	0
Walnut	Walnut	7	0	0	0	0
Wellsburg	Wellsburg	2	0	0	0	0
Wind I-X Fleet		161	85	19	0.53	0.22
2020 – 2021 Permit Year						
Adair	Adair, Eclipse, Morning Light	45	14	3	0.31	0.21
Adams	Adams	6	0	0	0	0
Carroll	Carroll, Victory	17	8	5	0.47	0.63
Century	Century	35	13	0	0.37	0
Charles City	Charles City	18	5	0	0.28	0
Ida Grove	Ida Grove I	29	12	8	0.41	0.67
Intrepid	Intrepid	24	10	5	0.42	0.50
Lundgren	Lundgren	23	7	0	0.30	0
Macksburg	Macksburg	12	3	1	0.25	0.33
Marshalltown	Laurel, Vienna I/II	24	11	1	0.46	0.09
Pomeroy	Pomeroy	11	9	3	0.82	0.33
Primghar	Highland, O'Brien	41	21	15	0.51	0.71
Rolling Hills	Rolling Hills	32	10	2	0.31	0.20
Walnut	Walnut	22	11	5	0.50	0.45
Wellsburg	Wellsburg	16	1	0	0.06	0
Wind I-X Fleet		355	135	48	0.38	0.36

CONCLUSION

A second full year of monitoring for the Projects has been completed, and the data presented here will be used to facilitate discussion during the annual meeting with the USFWS per requirements of the HCP (Section 5.5). Zero Indiana bats, zero northern long-eared bats, zero little brown bat, and one tri-colored bat were found during 29,690 searches in 2021. Seven bald eagle carcasses were found during scheduled O&M scans and one was found incidentally in 2021. Reporting of each find occurred as directed by Condition O of ITP TE41434D-0. The information presented in this memo will be combined with future monitoring data collected during years three through five of the ITP (2022 – 2024) to develop 5-year take estimates (Table 4) to inform discussion of HCP implementation, effectiveness, and adaptive management decisions during the Decision Meeting per the HCP requirements (Section 5.5).

LITERATURE CITED

MidAmerican Energy Company. 2018. Draft Habitat Conservation Plan: MidAmerican Energy Company Iowa Wind Energy Project Portfolio. MidAmerican Energy Company, Des Moines, Iowa. April 2018. 172 pp. + appendices and addendums. Accessed January 2022. Available online: <https://fws.gov/Midwest/Endangered/permits/hcp/pdf/MidAmericanDraftHCP.PDF>

MidAmerican Energy Company Wind I-X Habitat Conservation Plan

Five-year "Snapshot" of Commitment Compliance (ITP effective dates: 11/20/2019 – 11/19/2049)

Commitment	HCP Section(s)	ITP Year and Date When Commitment Accomplished				
		1 2020	2 2021	3 2022	4 2023	5 2024
Implement seasonal and Project-specific turbine operational adjustments	5.3.2	Feathering, all projects: 3/15/2020-11/15/2020 Raised cut-in, four projects: 7/15/2020-9/30/2020	Feathering, all projects: 3/15/2020-11/15/2020 – 78.96% Raised cut-in, four projects: 7/15/2020-9/30/2020 – 80.5%			
Implement carcass removal program	5.3.2	1/1/2020-12/31/2020	1/1/2020-12/31/2020			
Initial payments to conservation funds (eagle, bat, and mitigation lands)	5.3.3.3, 6.3	Payment 2019				
Technical Review Team meeting (MidAmerican, USFWS, IDNR, Mitigation Entity).	5.3.3.3	Refer to mitigation annual report				
Annual report to USFWS (by March 31)	5.3.3.3, 5.6, 6.3	03/31/2021	03/31/2022			
Conduct compliance monitoring	5.4, Appendix K	Intensive monitoring: 7/1/2020-10/15/2020 O&M scans: 1/1/2020-12/31/2020	Intensive monitoring: 7/1/2021-10/15/2021 O&M scans: 1/1/2021-12/31/2021			
Update EoA and SC with previous year's monitoring results	5.4, Appendix K					
Decision meeting to evaluate adaptive management (April)	5.5					
Annual USFWS meeting (April)	5.5, 8.0	4/15/2021	4/15/2022			
Report Covered Species fatalities to USFWS within 24 hours of positive identification	5.5.1.1, 5.5.2.1	Ongoing	Ongoing			
Annual mitigation report to the Technical Review Team (by March 31)	5.6	03/31/2021				
Letter to USFWS certifying funding has been allocated for HCP administration and compliance monitoring (by March 31)	6.1	03/31/2021				
Financial information (30 CFR § 800.23(b)(4)) to USFWS (within 90 days of FY close)	6.2	03/31/2021				
Mitigation fund report (April 30)	6.3	4/30/2021				
Notify USFWS of an administrative change (within 7 days of change)	8.4.1	Ongoing				

Store all carcasses collected in a freezer at the Project O&M & submit hair/tissue samples to USFWS	Appendix K	Ongoing	Ongoing			
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Note:

An adaptive management response may trigger additional commitments during the ITP term.
 A changed circumstance response may trigger additional commitments during the ITP term.

