Alliant Energy
4902 North Biltmore Lane
P.O. Box 77007
Madison, WI 53707-1007

1-800-ALLIANT (800-255-4268)
alliantenergy.com

November 20, 2023

Submitted via electronic mail

Ms. Ann Bekta
Wisconsin Department of Natural Resources
2514 Morse Street
Janesville, WI 53545

Subject: **Plan of Operations Modification Request – Addendum #4**
Initial Permitting of CCR Landfill
Wisconsin Power and Light Company
Dry Ash Disposal Facility (WDNR License #3025)
Columbia Energy Center
Portage, WI

Dear Ms. Bekta,

On behalf of Wisconsin Power and Light Company (WPL), Alliant Energy is submitting this Addendum #4 to the Plan of Operations Modification intended to meet the requirements of NR 514.045 for Initial Permitting of a CCR Landfill. The additional information is in response to the Department's March 8, 2023 letter requesting more information in order to determine that the Plan of Operation is complete for the Dry Ash Disposal Facility located at the Columbia Energy Center (#3025).

Thank you very much for your consideration of this initial submittal. If you have any questions or comments regarding this information, please call me at (608) 458-3853.

Regards,

Jeff Maxted
Manager – Environmental Services
Alliant Energy

CC: Tyler Sullivan – Wisconsin DNR
Eric Sandvig, Director of Operations – Columbia Energy Center
Brian Clepper, Lead GENCO Environmental Specialist – Columbia Energy Center
Phil Gearing, Eric Nelson – SCS Engineers

November 20, 2023
File No. 25222260.00

Ms. Ann Bekta
Wisconsin Department of Natural Resources
2514 Morse Lane
Janesville, WI 53545

Subject: Addendum No. 4 to Plan of Operation Modification Request WDNR CCR Code Update
Dry Ash Disposal Facility, License #3025
Columbia Energy Center
Town of Pacific, Columbia County, Wisconsin

Dear Ms. Bekta:

On behalf of Wisconsin Power and Light Company (WPL), SCS Engineers (SCS) prepared this Addendum No. 4 to the Plan Modification Request Wisconsin Department of Natural Resources (WDNR) Coal Combustion Residuals (CCR) Code Update for the Dry Ash Disposal Facility, License No. 3025, at the Columbia Energy Center. The original Plan Modification Request WDNR CCR Code Update was submitted on December 12, 2022; Addendum No. 1 was submitted on February 1, 2023; Addendum No. 2 was submitted on September 1, 2023; and Addendum No. 3 was submitted on November 3, 2023.

This addendum covers additional information for the WDNR CCR Code Update dated December 2022 to demonstrate compliance with NR 514.045 including the following:

- Confirmation that groundwater data used for calculation of proposed preventive action limits (PALs) and alternative concentration limits (ACLs) for CCR monitoring wells, as submitted in Addendum No. 2 and Addendum No. 3, have been submitted to Wisconsin's Groundwater and Environmental Monitoring System (GEMS) database.

- Additional justification for exemptions in accordance with NR 507.29 and NR 140.28 that were requested in Addendum No. 2 and Addendum No. 3.

If you have any questions regarding this addendum, please contact Jeff Maxted with Alliant Energy at (608) 458-3853.

Sincerely,

Thomas Karwoski, PG
Senior Hydrogeologist
SCS Engineers

Phillip Gearing, PE
Senior Project Manager
SCS Engineers

MDB/lmh/TK/PEG

cc: Tyler Sullivan, WDNR
Jeff Maxted, Alliant Energy
Matt Bizjack, Alliant Energy
Brian Clepper, WPL

Encl. Addendum No. 4

I:\25222260.00\Deliverables\Plan Modification Addendum 4\231120_COL_CCR Rule Plan Modification Addendum No.4_Final.docx

Plan of Operation Modification Request
WDNR CCR Code Update
Addendum No. 4

Columbia Dry Ash Disposal Facility
Pardeeville, Wisconsin

Prepared for:

Wisconsin Power and Light Company
Columbia Energy Center
W8375 Murray Road
Pardeeville, Wisconsin 53954

SCS ENGINEERS

25222260.00 | November 20, 2023

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

Table of Contents

Section Page

Certifications iii
1.0 **Introduction** 1
2.0 **Compliance With NR 507.15 (3)(i)** 1

Appendices

Appendix A Copy of GEMS Data Submittal

I:\25222260.00\Deliverables\Plan Modification Addendum 4\231120_COL_CCR Rule Plan Modification Addendum No.4_Final.docx

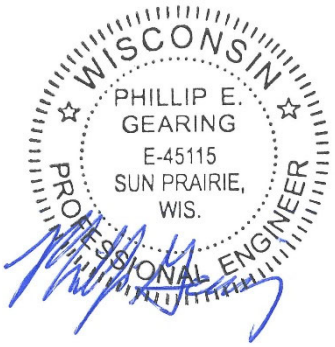
[This page left blank intentionally]

CERTIFICATIONS

"I, Phillip E. Gearing, hereby certify that I am a licensed professional engineer in the State of Wisconsin in accordance with the requirements of ch. A-E 4, Wis. Adm. Code; that this document has been prepared in accordance with the Rules of Professional Conduct in ch. A-E 8, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code."

Senior Project Manager E-45115
Signature, title and P.E. number

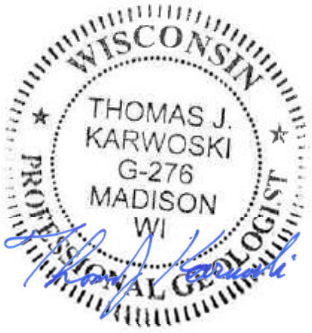
11/20/2023
Date



"I, Thomas J. Karwoski, hereby certify that I am a licensed professional geologist in the State of Wisconsin in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code; that the preparation of this document has not involved any unprofessional conduct as detailed in ch. GHSS 5, Wis. Adm. Code; and that, to the best of my knowledge, all information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 500 to 538, Wis. Adm. Code."

Senior Hydrogeologist
Signature, title

11/20/2023
Date



[This page left blank intentionally]

1.0 INTRODUCTION

On behalf of Wisconsin Power and Light Company (WPL), SCS Engineers (SCS) prepared this Plan of Operation Modification (Plan Mod) Request – Addendum No. 4 for the Columbia Dry Ash Disposal (COL) Facility. This Addendum addresses additional information for the Wisconsin Department of Natural Resources (WDNR) Coal Combustion Residuals (CCR) Code Update dated December 2022 to demonstrate compliance with NR 514.045.

This Addendum includes:

- Confirmation that groundwater data used for calculation of proposed preventive action limits (PALs) and alternative concentration limits (ACLs) for CCR monitoring wells, as submitted in Addendum No. 2 and Addendum No. 3, have been submitted to Wisconsin's Groundwater and Environmental Monitoring System (GEMS) database.

- Additional justification for exemptions in accordance with NR 507.29 and NR 140.28 that were requested in Addendum No. 2 and Addendum No. 3.

2.0 COMPLIANCE WITH NR 507.15 (3)(I)

NR 507.15 (3)(i)

> *"The owner or operator of the CCR landfill shall establish baseline groundwater quality in accordance with s. NR 507.18 for each CCR well and for each of the constituents required under ch. NR 507 Appendix I, Table 1A and in accordance with the approved sampling plan."*

Baseline groundwater quality will be established for each CCR well in accordance with NR 507.18 and for each constituent required under NR 507 Appendix I, Table 1A. Groundwater sampling results used to establish baseline groundwater quality were submitted to GEMS on November 20, 2023. A copy of the cover letter for that submittal is included as **Appendix A.**

Proposed PALs and ACLs for CCR monitoring wells were previously included in Addendum 2 and Addendum 3. Proposed PALs and ACLs for non-CCR monitoring wells were also included in Addendum 2.

Lines of evidence indicating that elevated concentrations of boron, chloride, and sulfate at wells where exemptions were requested are attributable to sources other than the Ash Disposal Facility (ADF) were previously summarized in Addendum 2. The justifications included below for nitrite + nitrite and manganese exemptions were previously summarized in Addendum 3.

- Arsenic concentrations at MW-86, MW-92A, and MW-92B appear to be attributable to natural background conditions. MW-86 is located to the east of the ADF, adjacent to Highway 51, and MW-92A and MW-92B are located to the south of the ADF. These locations are upgradient or sidegradient of the ADF.

- Beryllium concentrations at MW-310 were below the NR 140 PAL during all but two baseline sampling events, and the two concentrations above the PAL were reported as estimated concentrations below the laboratory limit of quantitation. These concentrations are therefore not PAL exceedances as defined by NR 140.14(1)(c), but an ACL was proposed for beryllium at this well because laboratory detection limits have

varied and it is possible that a concentration similar to baseline results would qualify as a PAL exceedance. Beryllium was detected at a concentration above the PAL but below the laboratory limit of quantitation (LOQ) in one sample at upgradient well MW-84A, indicating that variable concentrations that sometimes exceed the PAL are attributable to natural background conditions.

- Nitrite + nitrate concentrations appear to be associated with agricultural land use. Nitrate concentrations in groundwater in Columbia County are variable, and PAL or enforcement standards (ES) exceedances in supply wells are fairly common. The proposed ACLs multiple CCR monitoring wells and non-CCR monitoring wells are within the range of concentrations reported in UW Extension Geological and Natural History Survey Circular 37, Ground-Water Resources and Geology of Columbia County, Wisconsin.

- Manganese concentrations in groundwater in Columbia County are variable, and the proposed ACLs for MW-301, MW-313, and MW-315 are within the range of concentrations reported in UW Extension Geological and Natural History Survey Circular 37, Ground-Water Resources and Geology of Columbia County, Wisconsin.

- Molybdenum concentrations at MW-33BR have generally decreased since molybdenum was added to the monitoring program in 2011. Historical data are not available for comparison, but this well is located in an area of the site where elevated boron, chloride, and sulfate concentrations were present prior to construction of the ADF. The 1978 Feasibility Study for the ADF discusses the influence of the ash pond effluent ditch on groundwater west of the proposed site. Decreasing molybdenum concentrations at MW-33BR, and the lack of PAL exceedances in the adjacent shallow well or other nearby wells, indicate that molybdenum concentrations at MW-33BR are due to a source other than the ADF.

- Thallium concentrations at MW-309 and MW-310 were below the NR 140 PAL during all but three baseline sampling events at each well, and the detected concentrations above the PAL were reported as estimated concentrations below the laboratory limit of quantitation. These concentrations are therefore not PAL exceedances as defined by NR 140.14(1)(c), but ACLs were proposed for these wells because if the LOQ is lower during future monitoring events it is possible that a concentration similar to baseline results would qualify as a PAL exceedance. Thallium was detected at concentrations above the PAL but below the laboratory LOQ in one sample at upgradient well MW-84A and two samples at upgradient well MW-301, indicating that variable concentrations that sometimes exceed the PAL are attributable to natural background conditions.

Appendix A

GEMS Submittal Confirmation

Alliant Energy
4902 North Biltmore Lane
P.O. Box 77007
Madison, WI 53707-1007

1-800-ALLIANT (800-255-4268)
alliantenergy.com

November 20, 2023

Mr. Tyler Sullivan
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711-5367

Subject: **Baseline CCR Environmental Monitoring Data Submittal**
Wisconsin Power and Light Company – Columbia Ash Disposal Facility
Portage, Wisconsin
License #3025

Dear Mr. Sullivan:

On behalf of Wisconsin Power and Light Company (WPL), Alliant Energy is providing the enclosed summary and data submittal for the groundwater sampling performed at the WPL Columbia Ash Disposal Facility between 2015 and 2023. The monitoring was performed by SCS Engineers (SCS) and the samples were analyzed by Pace Analytical Services, Inc. of Green Bay, Wisconsin. Monitoring was performed to support compliance with baseline and detection groundwater monitoring requirements of the Federal Coal Combustion Residuals (CCR) Rule (40 CFR 257.90 through 257.94), and later with NR 507.18(15).

Please call me at (608) 458-3197 with any questions regarding this information.

Sincerely,

Matt Bizjack
Senior Environmental Specialist
Alliant Energy Corporate Services, Inc.

Enclosures

Cc: Brian Clepper – WPL Columbia Energy Center
Jeff Maxted – Alliant Energy Corporate Services, Inc.
Meghan Blodgett, Thomas Karwoski – SCS Engineers