

DUST CONTROL PLAN

Alma Offsite Landfill – Phase IV S2180 State Hwy 35 Alma, Wisconsin

Prepared by: Dairyland Power Cooperative

Reviewed and Certified by: TRC Environmental Corporation

December 30, 2022

REVISION HISTORY

Revision Number	Revision Date	Section Revised	Summary of Revisions
00	10/14/15	--	Initial Fugitive Dust Control Plan
01	11/29/16	2	Updated landfill cell status table and text.
01	11/29/16	3.3	Added “track out pads” to text in one of the bullets.
01	11/29/16	6.2	Updated contact phone number and email address.
01	11/30/16	3.1	Updated Dust Control Procedures to reflect engineering evaluation
01	11/30/16	App. D	Added Appendix D – Engineering Control Evaluation
01	12/19/16	7	Updated Engineering Certification Statement
02	12/13/17	App. C & D	Updated Appendix C and D
03	12/17/18	App. C & D	Updated Appendix C and D
04	12/17/19	App. C & D	Updated Appendix C and D
05	12/16/20	All	Updated the link in Section 6 to https://www.dairylandpower.com/ Updated the dates and revision # on all applicable pages Updated Appendix C and D
06	12/29/21	Section 1, 2, 3, App. C & D	Updated report to account for decommissioning of G-3, upgrades to JPM, and change in use of the ash processing facility to backup status.
07	12/30/22	Section 2, 3, 4, 6, App. C	Updated procedures and inspection description to include the use of leachate wetting inside the limits of the lined active landfill. Incorporated Wisconsin Administrative Code Requirements.

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LIST OF ACRONYMS

CCR	Coal Combustion Residuals
CFR	Code of Federal Regulations
EPRI	Electric Power Research Institute
FGD	Flue Gas Desulfurization

SECTION 1

BACKGROUND

The purpose of this Plan is to identify and describe the Coal Combustion Residuals (CCR) fugitive dust control procedures used to reduce the potential for CCR becoming airborne at the Alma Off-Site Landfill. The following sections provide background information on (1) coal combustion residuals and (2) regulatory requirements.

1.1 Coal Combustion Residuals

CCR materials are produced at coal-fired power plants when coal is burned to produce electricity. CCR materials are managed by coal-fired power plant sites, including on-site storage, processing (such as dewatering), and final disposal, typically in CCR landfills. Currently, CCR materials produced by Dairyland Power Cooperative's John P. Madgett Station is managed at the Alma Off-Site Landfill. CCR material from Genoa #3 was also managed at the Alma Off-site Landfill prior to decommissioning the unit in 2021. Types of CCRs typically generated include fly ash, bottom ash, and flue gas desulfurization (FGD) materials. General characteristics of these CCR materials are described below.

- **Fly Ash** – Fly ash is captured from exhaust (flue) gases by emissions control equipment including baghouses and electrostatic precipitators. Fly ash is characterized by clay-sized and silt-sized fine grain materials, consisting of silica, calcium, alumina, iron and trace heavy metals. Due to the small particle size and consistency, fly ash can often be mobilized by windy conditions when it is dry. However, the fly ash received at the Alma Off-Site Landfill is typically not dusty during management activities. This material is conditioned by adding water to the fly ash prior to arriving at the landfill or at the conditioning facility located at the landfill. Once this water has been added, it generally forms a crust on the surface of the fly ash, reducing the potential for dust issues.
- **FGD Materials** – FGD materials are produced by FGD emissions control systems, which are designed and operated to remove sulfur dioxide (SO₂) from exhaust (flue) gases. FGD materials are produced as a dry fine grained material, similar to fly ash. The material is collected in a baghouse and stored in silos. The material is then conditioned with water and transported by covered trucks to the landfill for disposal. When wetted and rolled out, the material forms a light crust reducing the potential for dust issues. Under certain conditions, FGD materials can form a crust on surfaces, reducing potential for dust issues from FGD storage areas.

- **Bottom Ash** – Bottom ash is characterized by sand-sized and gravel-sized materials, which settle by gravity to the bottom of a coal-fired furnace. Bottom ash from the boiler is directed to bins, where it is dewatered before being removed and transported to the landfill or storage area. Because of the larger particle size than fly ash, bottom ash is generally less susceptible to dust issues.

1.2 Regulatory Requirements

This Dust Control Plan has been developed for the Alma Off-Site Landfill in accordance with applicable federal, state, and local regulations discussed below.

1.2.1 CCR Rule Requirements

The CCR Rule (40 Code of Federal Regulations [CFR] Part 257, Subpart D) requires preparation of a Dust Control Plan for facilities including CCR landfills, CCR surface impoundments, and any lateral expansion of a CCR unit. Definitions from the CCR Rule are provided below.

CCR fugitive dust means solid airborne particulate matter that contains or is derived from CCR, emitted from any source other than a stack or chimney.

CCR landfill means an area of land or an excavation that receives CCR and which is not a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground or surface coal mine, or a cave. For purposes of this subpart, a CCR landfill also includes sand and gravel pits and quarries that receive CCR, CCR piles, and any practice that does not meet the definition of a beneficial use of CCR.

CCR unit means any CCR landfill, CCR surface impoundment, or lateral expansion of a CCR unit, or a combination of more than one of these units, based on the context of the paragraph(s) in which it is used. This term includes both new and existing units, unless otherwise specified. The CCR Rule requires owners or operators of these CCR facilities to adopt and document “measures that will effectively reduce the potential for CCR becoming airborne at the facility, including CCR fugitive dust originating from CCR units, roads, and other CCR management, and material handling activities” (40 CFR 257.80). Existing CCR surface impoundments and existing CCR landfills must prepare a Dust Control Plan “no later than October 19, 2015, or by initial receipt of CCR in any CCR unit at the facility if the owner or operator becomes subject to this subpart after October 19, 2015” (40 CFR 257.80 (b)(5)).

Facility means the Alma Off-Site Landfill and consists of contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, disposing, or otherwise conducting solid waste management of CCR. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

1.2.2 Applicable State and Local Requirements

The Alma Offsite Phase IV Landfill has a State approved operating license and Plan of Operation (POO). The POO includes a Fugitive Dust Control Plan as required by State solid waste rules (e.g., NR 504, 506, and 514). In addition to the State fugitive dust requirements outlined in the POO, Buffalo County does not have specific fugitive dust ordinances.

SECTION 2

FACILITY INFORMATION

Name of Facility: Alma Off-Site Landfill

Name of Operator: Dairyland Power Cooperative

Operator Mailing Address: 3200 East Avenue South
La Crosse, WI 54601

Name of Owner: Dairyland Power Cooperative

Owner Mailing Address: 3200 East Avenue South
La Crosse, WI 54601

Location: NE ¼ of the NE ¼ of Section 19 and portions of Section 18 and 20, Township 21N, Range 12W, Town of Belvidere, Buffalo, County, Wisconsin

CCR Description CCR material consists of the following:

CCR Material Type	G-3	JPM
Fly ash	X	X
Bottom ash	X	X
Dry Scrubber waste (FGD)	X	
Dry Sorbent Injection waste (FGD)		X
Activated carbon waste	X	X

Facility Description The Alma Off-Site (AOS) Landfill Facility consists of two licensed landfills. Phase I, II, and III Landfill is closed and capped. Phase IV Landfill is active and is classified as a CCR Landfill. CCR material is delivered by trucks to the Alma Offsite Phase IV Landfill from two off-site generation facilities, Genoa # 3 (G-3) and John P. Madgett Station (JPM). Genoa #3 was decommissioned in 2021 and no additional CCR is received from that facility.

The Phase IV Landfill consists of several cells.

Cell	Cell Size (acres)	Year Constructed	Year Closed and Capped
1	6	2001	2009
2A	3.8	2006	2011
2B	3.4	2007	Active
3A	3.9	2012	Active
3B	3.1	2015	Active
4A	5.4	Future	
4B	6.5	Future	

The first cell was constructed in 2001. Constructed cells consist of cells 1, 2A, 2B, 3A, and 3B. Portions of cells 1, 2A and 2B were closed and capped in 2009, 2011 and 2016, respectively. The final two cells, 4A and 4B will be constructed at some future date when appropriate to do so.

The landfill has two sedimentation basins associated with it. Sedimentation Basin No. 1 was constructed with Cell 1 in 2001. Sedimentation Basin No. 2 will be constructed with Cell 4B. The basins are for controlling storm water that drains off of the capped cells.

The landfill has a leachate collection system and leachate storage tank. On-site leachate water is used to condition ash at the adjacent Ash Processing Operation. Leachate water may also be used for dust control within the landfill's active cells, when appropriate site conditions are met.

An Ash Processing Operation (APO) is adjacent to the landfill. The APO consists of CCR storage silos and a system to condition (wet) CCR before being loaded into trucks and placed in the landfill. With the decommissioning of G-3 and system improvements implemented at JPM, the APO is currently acting as a backup storage system that will be used in the event of equipment malfunctions at the JPM facility. The APO has storm water controls and a storm water pond. Pond water, in addition to on-site leachate extracted from the leachate collection system, is used to condition CCR at the facility and for dust control within the landfill's active cells.

SECTION 3

DUST CONTROL PROCEDURES

The following sections discuss dust control procedures for (1) CCR short-term storage and management areas, (2) CCR landfill units, and (3) facility roads.

The dust control applications detailed below are typical for the industry and appropriate considering the conditions of the site. The applications are compatible with the current operations or can be initiated quickly to minimize and prevent fugitive dust at the site.

Unless otherwise specified, “water” may include groundwater, on-site leachate, pond water, and/or river water.

3.1 CCR Short-Term Storage and Management Areas at the AOS Landfill Facility

Dust control procedures are implemented in CCR short-term storage and management areas, as discussed below.

- Short-term storage consists of CCR silos for backup storage of fly ash from JPM. The material is off-loaded from the trucks pneumatically into the storage silos. Dust is controlled during the off-loading process by a filter system on the silos.
- Prior to loading into dump-trucks from the silos, the CCR material is conditioned (wetted) to reduce dusting and enable the ash to be moved and packed in the landfill. The amount of water added to the ash is dependent on ash quality on any given day. Sometimes more water needs to be added on one day than on another day. The goal is to add enough water to minimize dusting but not so much that the mixers become plugged. During loading activities, drop chutes are utilized to reduce the potential for mobilization of CCR dust. The load-out area is located directly under the conditioning silo, which also has some wind protection built into it. This activity will occur infrequently with the process improvements made at JPM.
- CCR waste is delivered directly to the landfill from the JPM facility. The waste is conditioned at the JPM facility and loaded into trucks. The trucks deploy covers during transport to the landfill to reduce fugitive dust.
- Bottom ash is delivered directly to the landfill from JPM. The bottom ash is dewatered in dewatering bins before being loaded into trucks. The trucks deploy covers during transport to the landfill to reduce the potential for fugitive dust.

3.2 AOS Landfill Facility CCR Landfill Units

In accordance with 40 CFR 257.80(a), CCR is conditioned (wetted) before being placed into the active landfill cell(s). As noted in Section 3.1, water is added to the CCR materials to reduce wind dispersal and improve compaction during CCR placement in landfill cells. This process is completed at the APO located adjacent to the landfill.

Additional dust control procedures are implemented for active CCR landfill units, as detailed below.

- The AOS Landfill Facility is located within a narrow valley. The landfill is protected from winds on the east, north, and west sides by steep forested valley slopes that extend well above the landfill. The valley is exposed to the south but lower valley trees provide some limited wind protection.
- Open or active landfill cell areas are reduced to less than 7 acres and the working face will be maintained as small as feasible. Active and closed areas are clearly delineated, and traffic controls implemented to properly direct unloading operations and traffic routing in and out of the landfill.
- When ash is placed in the landfill, it is spread out, wetted, and rolled to create a harder surface to help reduce the ability of the wind to pick up the material. Conditioning (wetting) of the CCR material will be completed as to not result in free liquids. This is done as soon as possible after placement to minimize potential for dust generation.
- Water spray is applied, as needed, to exposed CCR, including on the working face. On-site personnel will monitor the spraying within the active areas to eliminate exposure of leachate outside the lined perimeter.
- During high wind conditions when the facility cannot control visible dust, unloading operations at higher elevations of the working face may be reduced or halted.

When active CCR operations are completed in a given area(s), the area(s) is/are contoured and compacted, as needed, in preparation for final cap and cover installation. The final cap and cover will be installed per the approved Plan of Operation/Plan of Operation Modifications and seeded.

Following the installation of the final cap and cover, the cover system is maintained, including vegetation, to reduce the potential for wind and water erosion of the cover.

3.3 AOS Landfill Facility Roads

Dust control procedures for roads in active use for CCR management activities at the landfill, or that are being traveled by construction equipment employed in CCR management activities, are discussed below.

- Enforce reduced vehicle speed limits unpaved surfaces to 15 miles per hour (mph) to reduce dust mobilization. During high wind conditions when the facility cannot control visible dust, operations and related traffic could be reduced or halted.
- During transportation, cover CCR using well-fitted tarps to reduce the potential for CCR becoming airborne during truck transport. If tarps are not practical or dusting is observed, additional water may be added to CCR prior to transportation.
- During non-freezing weather, spray unpaved roads at the landfill daily, as needed, using water trucks. River water or groundwater will be used on the roads outside the landfill. Most of the landfill facility roads are paved, except for sections near the landfill itself. This reduces the water needed for unpaved sections.
- During freezing weather, road salt that is used on the paved roadways on-site, creates a damp condition that is carried over to the unpaved roadways, which helps to eliminate dust emissions from being generated.
- Paved roads at the AOS Landfill Facility will be cleaned by a sweeper/vacuum truck and, during periods of high traffic and/or dry weather, may also be wetted.
- Trucks and vehicles that have the potential to track ash, mud, or dust outside of the CCR management area(s) are cleaned prior to leaving the landfill (use of track out pads added in 2016)
- Trucks and vehicles may also be cleaned as needed using water trucks and portable decontamination areas.

SECTION 4
INSPECTIONS

Visual inspections are conducted by Site personnel on a daily basis to observe signs of inadequate dust control, such as significant and visible fugitive dust emissions. Appendix A provides forms for the daily observations. Documentation of daily inspections noting non-conforming items are at the Facility. Inspection records will be maintained at the Facility for five years.

SECTION 5

TRAINING

Training sessions are conducted annually to update employees on changes in the regulations, laws, or in-house procedures related to CCR management, including dust control procedures. Training records will be maintained at the Facility for five years. Sign-in sheets and topics of discussion at each briefing are maintained for documentation (Appendix B).

SECTION 6

RECORDKEEPING AND REPORTING

The following sections provide details regarding (1) Plan preparation, (2) community involvement, (3) annual reporting, and (4) Dust Control Plan assessment and update process.

6.1 Plan Preparation

In accordance with 40 CFR 257.80(a), 257.105(g), and 257.107(g), a complete, updated copy of this Dust Control Plan is maintained in the Phase IV Landfill facility operating record and on the DPC publicly accessible internet site. ([CCR Rule Compliance Data and Information](https://www.dairylandpower.com/) at <https://www.dairylandpower.com/>)

Revision to this Dust Control Plan shall be completed in accordance with s. NR 514.04(6), whenever there is a change that may substantially affect the Landfill Plan of Operation. This includes submitting the revised Dust Control Plan to the WDNR Waste and Materials Management Section as a Plan Modification for review and approval prior to implementation. In accordance with 40 CFR 257.106(g), WDNR Waste and Materials Management Section is notified when this Dust Control Plan, or any subsequent amended version, is placed in the Phase IV Landfill operating record and on the DPC internet site.

6.2 Community Involvement

As discussed above, DPC maintains a publicly accessible internet site to provide information to stakeholders. The DPC internet site also provides contact information and requests that stakeholders contact DPC with any questions or concerns regarding dust controls for the AOS Landfill Facility. Additionally, DPC may be contacted directly regarding fugitive dust events by contacting the DPC Manager of Water & Waste Programs as follows:

Phone: (608) 787-1311 (during normal business hours, 8:00 AM - 4:00 PM)

Email: ccrinfo@dairylandpower.com

Mail: Dairyland Power Cooperative, 3200 East Avenue South, La Crosse, WI 54601

For reporting a CCR fugitive dust event, include the following information in your correspondence:

- Name
- Address

- Phone number
- Email address (optional)
- Date of dust event
- Time of dust event
- Location of dust event
- Description of the dust event
- Do they want us to contact them?
- Date and time they can be reached for follow-up by DPC personnel, if wanted.

CCR fugitive dust events will be logged via the Record of External Contact Form and included with the annual report described in Section 6.3 of this plan.

In accordance with 40 CFR 257.80(b), DPC will maintain records of stakeholder correspondence, including any questions or concerns regarding dust controls at the AOS Landfill Facility.

6.3 Annual Reporting

In accordance with 40 CFR 257.80(c) and s. NR 506.20(3)(a), DPC prepares annual dust control reporting to document the following information:

- Description of dust control procedures implemented at the Phase IV Landfill facility.
- Summary of any questions or concerns raised by stakeholders
- Description of any corrective actions taken

The first Annual Dust Control Report will be completed on or before December 19, 2016, that is 14 months after the Plan completion date, when the initial CCR fugitive dust control plan is placed in the Phase IV Landfill operating record. Subsequent Annual Dust Control Reports will be completed by December 19 of each calendar year thereafter. Each Annual Dust Control Report is completed and placed in the Phase IV Landfill facility operating record and on the DPC internet site, as required by 40 CFR 257.80(c), 257.105(g), and 257.107(g). In accordance with 40 CFR 257.106(g), WDNR Solid Waste is notified when each Annual Dust Control Report has been placed in the Phase IV Landfill facility operating record and on the DPC internet site.

In accordance with s. NR 506.20(3), each Annual Dust Control Report will be included in the Annual Report required by the WDNR for CCR Landfills. Each annual report will be submitted to the WDNR and placed in the facility's operating record by January 31 of each year.

6.4 Plan Assessment and Update Process

In accordance with 40 CFR 257.80(b), DPC periodically assesses the effectiveness of this Dust Control Plan. The Dust Control Plan will be inspected as detailed in Section 4.0. The Dust Control Plan will be reviewed annually when the Dust Control Plan Report is completed for adherence to the requirements of 40 CFR 257. If more effective prevention and control technology has been field-proven at the time of the review and will significantly improve dust controls, the Dust Control Plan will be amended to reflect the changes. The amended Dust Control Plan will be implemented as soon as practicable of its completion. The designated person accountable for dust control at the Phase IV Landfill facility is responsible for documenting completion of each review, signing a statement as to whether the Dust Control Plan is amended, and recording the results in Appendix C. As required by 40 CFR 257.80(b), technical changes made to this Dust Control Plan must be certified by a Professional Engineer.

In accordance with 40 CFR 257.80(b) and s. NR 514.07(10)(a)(4), DPC will also amend this Dust Control Plan whenever there is a change in conditions that would substantially affect the written Dust Control Plan or Plan of Operation in effect, such as the construction and operation of a new CCR unit. The amended Dust Control Plan will be submitted to the WDNR for review and approval prior to being implemented. Implementation will occur before or concurrently with the initial receipt of CCR into any new CCR unit(s) or prior to the technology implementation. As required by 40 CFR 257.80(b), technical changes made to this Dust Control Plan must be certified by a Professional Engineer.

In accordance with 40 CFR 257.106(g), WDNR Solid Waste will be notified when this Dust Control Plan has been amended and placed in the Phase IV Landfill facility operating record and on the DPC internet site.

SECTION 7

ENGINEERING CERTIFICATION

Pursuant to 40 CFR 257.80 and by means of this certification I attest that:

- (i) I am familiar with the requirements of the CCR rule (40 CFR 257);
- (ii) I am familiar with the requirements of the ch. NR 500-520, Wisconsin Administrative Code;
- (iii) the Dust Control Plan has been prepared in accordance with the requirements of the CCR rule and Wisconsin Administrative Code; and
- (iv) the Dust Control Plan meets the requirements of 40 CFR 257.80 with the following action items:
 - a. The ash processing operation will be utilized as a backup system used infrequently (quarterly or less) during equipment interruptions at the JPM facility. Dust generated during this infrequent use will be managed by best management practices implemented at the facility. If there is a need for more frequent use, Dairyland Power Cooperative will continue the annual evaluation of dust reduction options and implement recommendations on a minimum annual basis.



BreAnne Kahnk, P.E. – TRC Environmental Corporation

Digitally signed by BreAnne Kahnk
Location: TRC - Madison WI
Contact Info: 608-598-9478
Date: 2022.12.28 14:03:31-06'00'

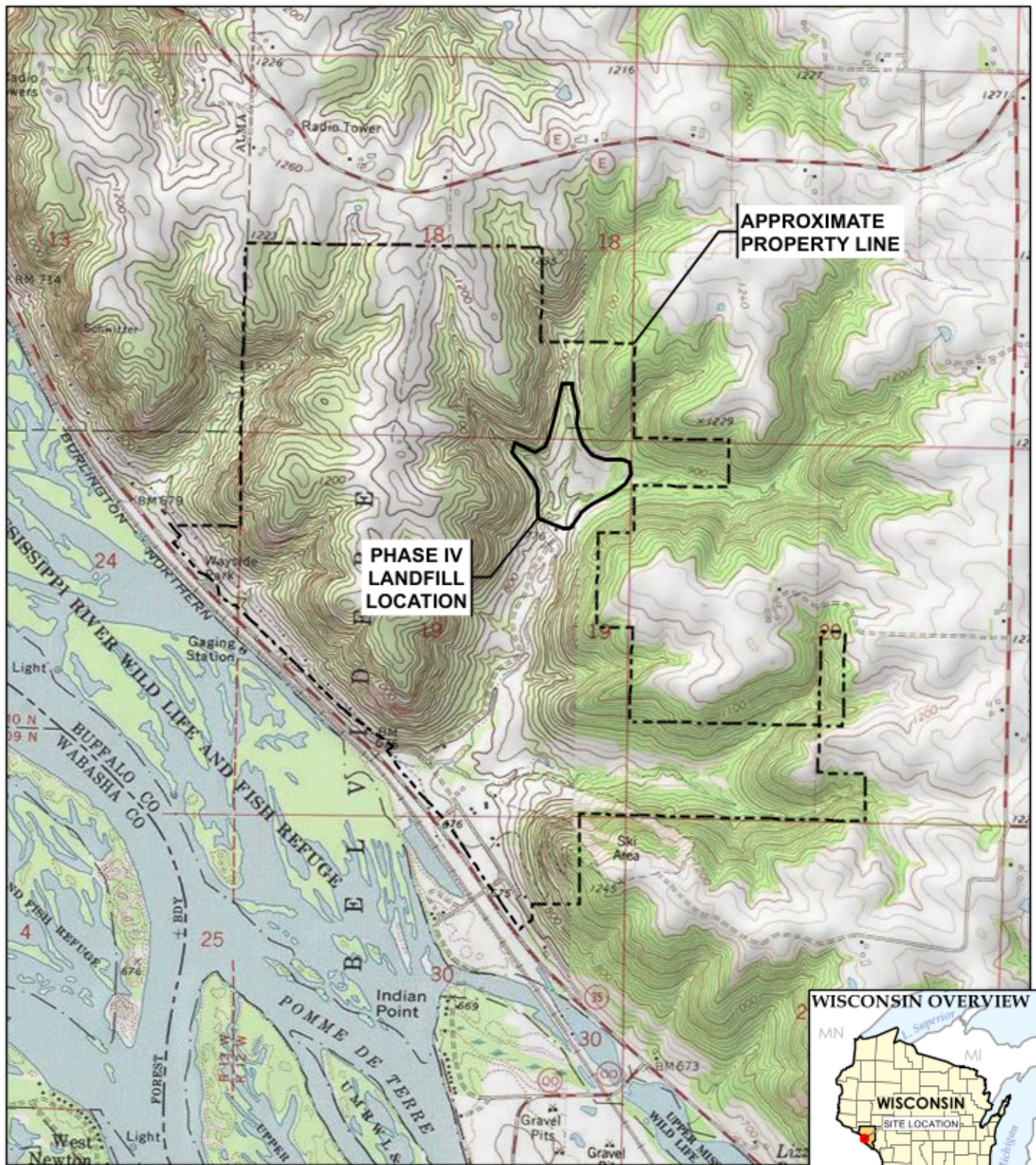
Signature of Registered Professional Engineer

Registration No. E-46825

State: WI

FIGURES

TRC - GIS



BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES.



708 Heartland Trail
 Suite 3000
 Madison, WI 53717
 Phone: 608.826.3600

**DAIRYLAND POWER COOPERATIVE
 ALMA OFF-SITE DISPOSAL FACILITY
 DUST CONTROL PLAN
 TOWN OF BELVIDERE, BUFFALO COUNTY, WISCONSIN**

SITE LOCATION MAP

DRAWN BY:	RHODE B
APPROVED BY:	HOTSTREAM J
PROJECT NO.:	243332.0001
FILE NO.:	243332-001sim.mxd
DATE:	OCTOBER 2015

FIGURE 1

APPENDIX A

Daily Inspection Checklist

APPENDIX B

Training Attendance Record

APPENDIX C

Dust Control Plan Review Documentation

APPENDIX C

DUST CONTROL PLAN REVIEW DOCUMENTATION

In accordance with 40 CFR 257.80(b), this Dust Control Plan has been reviewed to assess if more effective control procedures are available to significantly reduce the likelihood of CCR from becoming airborne at the facility.

By means of this certification, I attest that I have completed a review and evaluation of this Plan for the Facility located in Alma, Wisconsin, and as a result

_____ will

will not

amend the Plan. Technical amendments to the Plan have been certified by a Professional Engineer.



Signature

12/10/24

Date

Don Loock

Name (Printed)

Mgr Alma Fuels & Solid Waste

Title



Signature

12/10/24

Date

Leif Tolokken

Name (Printed)

Mgr Water & Waste Programs

Title