State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
141 NW Barstow St. Room 180
Waukesha, WI 53188

Tony Evers, Governor
Karen Hyun, Ph.D., Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

May 5, 2025

FID #606043900
Buffalo County
SW/Approval

Mr. Leif Tolokken
Dairyland Power Cooperative
JPM Station
500 Old State Highway 35
Alma, WI 54610

Subject: Conditional Plan of Operation Approval Modification for Initial Permitting of a Coal Combustion Residuals (CCR) Landfill, Dairyland Power Cooperative Alma Off-Site Disposal Facility, Phase IV Landfill (License #4126)

Dear Mr. Tolokken:

The Department of Natural Resources (department) has reviewed the proposed plan of operation modification for initial permitting of a coal combustion residuals (CCR) landfill for the Dairyland Power Cooperative Alma Off-Site Disposal Facility, Phase IV Landfill. There are attachments to this letter which include a project summary, the plan of operation approval modification, environmental monitoring tables, preventive action limit (PAL) and alternative concentration limit (ACL) tables, closure and long-term care cost estimate tables, and a summary of existing conditions.

Please include this approval in the written operating record and on the CCR landfill publicly accessible internet site for the landfill in accordance with s. NR 506.17(2) and (3), Wis. Adm. Code. Provide notification to the department upon placing the documents on the internet site.

A condition of this approval requires proof of financial responsibility for closure and long-term care be adjusted within 60 days. The revised proof of financial responsibility must be established based upon the approved costs contained in Attachment 3 and the requirements of ch. NR 520, Wis. Adm. Code. Please contact Dustin Sholly, owner financial responsibility specialist, at Dustin.Sholly@wisconsin.gov or 608-886-0154 if you have questions.

Please keep in mind that this approval does not relieve you of obligations to meet all other applicable federal, state, and local permits, as well as zoning and regulatory requirements. If you have questions regarding this approval, please contact Tony Peterson at (715) 491-8546 or anthony.peterson@wisconsin.gov or Matthew Bachman at (608) 512-3233 or matthew.bachman@wisconsin.gov.

Sincerely,

Melanie Burns

Melanie Burns
Waste and Materials Management Program Supervisor
Southeast Region

cc: Brian Kalvelage – Dairyland Power Cooperative (brian.kalvelage@dairylandpower.com)
BreAnne Kahnk – TRC Companies (bkahnk@trccompanies.com)
Todd Martin – TRC Companies (twmartin@trccompanies.com)
Tony Peterson – DNR/WA (anthony.peterson@wisconsin.gov)
Matthew Bachman – DNR/WA (matthew.bachman@wisconsin.gov)
John Morris – DNR/WA (john.morris@wisconsin.gov)
Joseph Lourigan – DNR/WA (joseph.lourigan@wisconsin.gov)
Malena Grimm - DNR/WA (malena.grimm@wisconsin.gov)
Dustin Sholly – DNR/WA (dustin.sholly@wisconsin.gov)

Attachments:
A. Project Summary
B. Conditional Plan of Operation Approval Modification for Initial Permitting
   1. Environmental Monitoring Tables
   2. Preventive Action Limit (PAL) and Alternative Concentration Limit (ACL) Tables
   3. Closure and Long-Term Care Cost Estimates

PROJECT SUMMARY
PLAN OF OPERATION APPROVAL MODIFICATION
COAL COMBUSTION RESIDUALS (CCR) INITIAL PERMITTING
FOR THE
DAIRYLAND POWER COOPERATIVE ALMA OFF-SITE DISPOSAL FACILITY, PHASE IV LANDFILL, LICENSE #4126

General Facility Information

AUTHORIZED CONTACT:

Mr. Leif Tolokken
Manager, Water and Waste Programs
Dairyland Power Cooperative
La Crosse, WI 54602
Cell 608-386-2675
Leif.Tolokken@dairylandpower.com

LICENSEE AND PROPERTY OWNER: The Dairyland Power Cooperative Alma Off-Site Disposal Facility, Phase IV Landfill (Phase IV Landfill) is owned and operated by Dairyland Power Cooperative (DPC).

SITE LOCATION: The Phase IV Landfill is located in the Northeast ¼ of the Northeast ¼ of Section 19 and Sections 18 and 20, Township 21 North, Range 12 West, Town of Belvidere, Buffalo County, Wisconsin.

CCR LANDFILL DESCRIPTION:

The initial plan of operation was approved on May 15, 2001, for a four-cell landfill, approximately 32 acres in size, with a design capacity of 3,011,000 cubic yards (cy). Cells 2, 3, and 4 were broken down into two modules, A and B. As of the submittal of the initial permitting plan modification, Cells 1-3, approximately 20.2 acres, of the landfill have been constructed and approximately 1.3 million cy of CCR waste have been placed in the landfill. Cell 4, modules A and B have yet to be constructed. Below is a list of the current status of each cell of the landfill.

- Cell 1 – This cell is filled and capped with final cover.
- Cell 2A – A portion of this cell is filled and capped with final cover. A portion of the cell is currently active.
- Cell 2B – A portion of this cell is filled and capped with final cover. A portion of the cell is currently active.
- Cell 3A – This cell is currently active and being filled.
- Cell 3B – This cell is currently active and being filled.
- Cell 4A – This cell has yet to be constructed.
- Cell 4B – This cell has yet to be constructed.

INITIAL PERMITTING REQUIREMENTS:

PERFORMANCE CRITERIA, s. NR 514.045(1)(b), Wis. Adm. Code:

Wetlands, s. NR 504.04(4)(a), Wis. Adm. Code:

There are no wetlands in the project area for the Phase IV Landfill. Wetlands were originally evaluated for the project area for the feasibility report. The feasibility process identified the nearest wetlands are located approximately 1 mile south of the proposed site along the Mississippi River. The Department of Natural Resources' (department's) Surface Water Data Viewer (SWDV) identifies the potential presence of two wetlands

too small to delineate in the landfill footprint. Both identified locations of the potential wetlands are in already constructed cells with solid waste disposal. The SWDV also identifies a potential wetland to the east of the landfill footprint in the constructed access roadway to the east of the landfill.

Endangered or Threatened Species, s. NR 504.04(4)(b), Wis. Adm. Code, and Critical Habitat of Endangered or Threatened Species, NR 514.045(1)(e), Wis. Adm. Code:

In January 2023, an endangered resources review was completed for the Phase IV Landfill and surrounding area. The endangered resource review was updated on January 21, 2025. The review indicated 11 species with required follow-up actions and three species with recommended follow-up actions of erosion and runoff protection measures. The Phase IV Landfill has a stormwater management system that is designed to minimize erosion and sediment transport off-site. DPC will use erosion control best management practices (BMPs) in accordance with DNR Technical Standards to manage potential erosion and sediment release during land disturbance activities.

The review also indicated potentially suitable habitat for one state-threatened snail species that may be impacted by project activities. Before disturbing areas where potential snail habitat exists, DPC will have a qualified individual perform a snail habitat survey. If habitat is found and would need to be impacted DPC will contact the Wis. DNR Endangered Resources Utility Liaison to discuss avoiding impacts or to apply for an Incidental Take Permit.

The U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) Official Species List indicated the potential presence of one endangered mammal, the Northern Long-eared Bat, two endangered clams, Higgins Eye and Sheepnose Mussel, and one candidate insect species, the Monarch butterfly. DPC indicated that suitable habitat is not present in the study area for Higgins Eye and Sheepnose Mussel. DPC indicated that suitable habitat is not expected to be present for the Monarch Butterfly. DPC identifies that potentially suitable woodland habitat was observed in the study area for the Northern Long-Eared Bat. Critical habitat areas are designated by the USFWS. The IPaC does not identify any critical habitat of endangered or threatened species listed under s. NR 27.03 (1), Wis. Adm. Code within the area of the landfill. DPC states that tree-clearing restrictions will be put into place to avoid tree-clearing during the northern long-eared bat pup season (June 1 to July 31) and/or the active season (April 1 to October 31).

Surface water, s. NR 504.04(4)(c), Wis. Adm. Code:

Three unnamed intermittent streams are identified in the project area on the department's SWDV. These streams were determined to be non-navigable in the October 26, 1994 initial site inspection (Appendix C of the January 30, 2023 plan of operation modification report). There are no ponds, flowages, or floodplains identified within the project area.

LOCATIONAL CRITERIA, s. NR 514.045(1)(c), Wis. Adm. Code:

Faults, s. NR 504.04(3)(g), Wis. Adm. Code:

The landfill is not located within 200 feet of a fault that has had displacement in Holocene time. A Quaternary Faults map from the USGS was included in Appendix C of the January 30, 2023 plan of operation modification report for Initial Permitting.

Seismic Impact Zones, s. NR 504.04(3)(h), Wis. Adm. Code:

The landfill is not located in a seismic impact zone. Section NR 500.03(208), Wis. Adm. Code, defines a seismic impact zone as an area having a 10 percent or greater probability that the maximum expected horizontal

acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull (g), will exceed 0.10 g in 50 years. Appendix D of the January 30, 2023, plan of operation modification report includes a calculation demonstrating that the probability of exceedance is less than two percent in 50 years for a maximum expected horizontal ground acceleration of 0.10 g, therefore the landfill is not located in a seismic impact zone.

Unstable Areas and Differential Settling, ss. NR 504.04(3)(i) and NR 514.045(1)(c)1., Wis. Adm. Code:

The Phase IV landfill is underlain by unconsolidated deposits consisting of silt and lean clay overlying silty sand and sand. This is underlain by weathered bedrock (sandstone or dolomite) and sandstone. Standard penetration tests (SPT) performed in the soil borings as part of the site investigation found that the silt and clay generally consisted of medium stiff to stiff relative densities. The silty sand and sand are characterized as primarily medium dense to dense. Dense or stiff soils are generally stable and not susceptible to significant differential settlement.

Unstable Areas and Geologic or Geomorphologic Features, ss. NR 504.04(3)(i) and NR 514.045(1)(c)2., Wis. Adm. Code:

The Phase IV Landfill is not located in an area where on-site geologic or geomorphologic features are unstable. Karst systems were not encountered during the site investigation. Faults were not observed in the rock cores and no faults have been identified within the landfill area in the past 1.6 million years. The Phase IV Landfill is underlain by medium-dense to dense sediments overlying sandstone bedrock. The Phase IV Landfill is also located above the seasonal high groundwater table. These geologic features provide a stable foundation for the landfill. This assessment is confirmed by a slope stability analysis completed for the landfill which indicates that the slope stability safety factors are acceptable.

Unstable Areas and Human-made Features or Events, ss. NR 504.04(3)(i) and NR 514.045(1)(c)3., Wis. Adm. Code:

The Phase IV Landfill is not located in an area with on-site or local human-made features (surface or subsurface) that are unstable. The Phase IV Landfill is not located on human-made features or events that could create an unstable area. Surface water around the landfill is managed with an adequate stormwater management system and best management practices.

Floodplains, NR 514.045(1)(d), Wis. Adm. Code:

The landfill is not located within a floodplain and is in an area of minimal flood hazard. A department SWDV map is provided in Appendix C of the January 30, 2023, plan of operation modification report. The facility or practices will not restrict the flow of the regional flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human life, wildlife, or land or water resources.

LANDFILL DESIGN, s. NR 514.045(1)(f), Wis. Adm. Code:

Subbase and Base Grades:

Subbase grades were designed to provide a minimum separation distance of 10 feet from the seasonal high groundwater table and the top of the bedrock surface. Subbase grades within the landfill slope from north to south, following the overall site's topography. Interior perimeter berms were designed and constructed at a 3:1 slope and the floor slopes were designed to exceed the minimum requirement for a 2% slope to the leachate collection system of the landfill liner, in accordance with s. NR 504.06(2)(d), Wis. Adm. Code.

Base grades of the landfill were designed to be raised a minimum of 2 feet above subbase grades and follow the subbase grades slope from north to south. The subbase and base grades are designed in a herringbone configuration. This configuration is thought to increase the efficiencies of the leachate collection system as leachate is directed to designated low spots where the leachate can be removed from the landfill footprint.

The base grades within Cell 4 Modules A and B were designed with a 4% slope along the leachate collection line. These slopes exceed the minimum slope of 0.5% required by s. NR 504.06(5)(b), Wis. Adm. Code. The ridges in the herringbone configuration are designed to meet or exceed the minimum requirement of a 2% slope towards the leachate collection trenches, in accordance with s. NR 504.06(2)(d), Wis. Adm. Code. The slope of the base grades within Cell 4 ranges from 2% to 10%.

Composite Liner System:

The composite liner system for constructed Cells 1 through 3 and future Cell 4 will consist of the following components, from bottom to top:

- 24-inch-thick soil barrier layer
- Geosynthetic clay liner (GCL)
- 60-mil high density polyethylene (HDPE) geomembrane
- A minimum 12-ounce per square yard nonwoven geotextile cushion layer placed in leachate collection trenches

The liner design meets the minimum design and construction criteria for CCR Landfills listed in s. NR 504.06(7), Wis. Adm. Code. Construction of the liner system will be documented in accordance with s. NR 516, Wis. Adm. Code.

The 24-inch soil barrier layer of the liner will be constructed in accordance with s. NR 504.07(4)(a)(12)-(17), Wis. Adm. Code, and Section 5 of the construction quality assurance (CQA) plan included in Attachment 5 of the January 17, 2024 addendum to the report. The soil barrier layer will be placed in 6-inch lifts upon the subbase grade and be compacted to achieve 90% modified or 95% standard Proctor density or greater at a moisture content at or wet of optimum.

A GCL layer will be placed directly above the 24-inch-thick soil barrier layer in accordance with s. NR 504.07(4)(a), Wis. Adm. Code, and Section 11 of the CQA plan. As required in s. NR 504.12(3)(a)5, Wis. Adm. Code, a liner that utilizes a GCL and soil barrier layer will be designed to have a liquid flow rate no greater than the liquid flow rate through 2-feet of compacted soil with a hydraulic conductivity of 1×10^{-7} centimeters per second (cm/sec).

A 60-mil HDPE geomembrane layer will be installed above the GCL in accordance with s. NR 504.06(3), Wis. Adm. Code, and Section 9 of the CQA plan. A geotextile cushion layer will be installed above the 60-mil HDPE geomembrane liner within the leachate collection pipe trench in accordance with Section 10 of the CQA Plan.

Leachate Collection and Removal System:

The leachate collection system will be constructed in accordance with s. NR 504.06(5), Wis. Adm. Code, and will consist of the following: a 12-inch-thick layer of granular drainage material, a network of leachate collection and transfer pipes, cleanout pipes, perimeter access manholes, transfer manholes, a collection tank, and a load-out station.

As part of the May 15, 2001, plan of operation approval, the department issued an exemption to s. NR 504.06(5)(j), Wis. Adm. Code, to allow for horizontal pipe penetrations through the south sideslope of the landfill to allow leachate to gravity drain from the landfill to the leachate collection tank south of the landfill. Thereby allowing the landfill to be designed and constructed with a gravity drain leachate collection and removal system. The gravity drain system was constructed for Cells 1 through 3. Renewal of this exemption was requested for Cell 4 as part of the initial permitting plan modification report. The report included a demonstration of the existing gravity drain leachate collection and removal system in Cells 1 through 3, which was demonstrated to be effective at removing leachate from the landfill and to have effective measures in place to prevent leachate transport into the environment from the landfill through the horizontal pipe penetrations. Therefore, the department is approving the exemption renewal request.

Additionally, as part of the May 15, 2001, plan of operation approval, the department issued an exemption to s. NR 504.06(5)(a), Wis. Adm. Code, to allow for the distance leachate flows to exceed a distance of 130-feet across the base of the liner before encountering a perforated leachate collection pipe. Section NR 504.06(5)(a), Wis. Adm. Code, states that the department may approve flow distances greater than 130-feet for well-designed composite landfills. Therefore, an exemption to s. NR 504.06(5)(a), Wis. Adm. Code, is not required for this plan of operation modification approval. The department has determined that the layout of the leachate collection system piping as it was approved in the department's May 15, 2001 plan of operation approval remains acceptable.

Leachate forcemain piping, which transfers leachate from the landfill to the leachate collection tank, consists of double-walled, 6-inch diameter non-perforated standard dimensional ratio (SDR) 17 HDPE pipe encased within a 10-inch diameter non-perforated SDR 11 HDPE pipe. Seven concrete manholes were designed to provide locations for changes in piping direction, for piping to manifold into a single transfer pipe, cleanout access, and to monitor interstice between the casing and carrier pipes. The leachate forcemain piping and corresponding manholes have already been constructed for future Cell 4.

The leachate storage tank is a below-ground tank with a nominal storage capacity of 30,000 gallons and provides approximately 4 days of storage capacity based on peak the leachate generation rate estimated for the Phase IV Landfill. The tank consists of a double-walled, fiberglass-coated, steel-reinforced Duraglass Type I storage tank that was bedded on clean sand and secured with deadman anchors.

Leachate generated at the landfill is hauled to and treated at the wastewater treatment facility at the DPC John P. Madgett Station located in Alma, WI or the La Crosse Wastewater Utility wastewater treatment plant in La Crosse, WI. Leachate headwells exist within the leachate collection system to monitor the hydraulic head on the base liner. Two leachate headwells will be installed in each future cell.

Final Cover System:

Final cover has been constructed on existing Cells 1 and 2. The existing final cover consists of a composite cover with the following components, from bottom to top:

- 24-inch compacted fly ash barrier layer
- 40-mil flexible polyethylene geomembrane
- 1-foot drainage layer
- 1.5-foot general fill rooting zone
- 6-inch topsoil layer

The initial permitting plan modification request included a request to use 2 feet of moisture-conditioned and completed fly ash as part of the final cover system, which was approved by the department in the past as part of a

plan modification approval on March 4, 2004. The department informed DPC that it was unlikely to approve that design under the current Wisconsin Administrative Code and department policies, and DPC rescinded this request from the initial permitting plan modification request.

The final cover for the remaining areas of active Cells 2 and 3 and the future Cell 4, will consist of the following components, from bottom to top:

- 24-inch soil barrier layer
- Geosynthetic Clay Liner (GCL)
- 40-mil textured liner low-density polyethylene (LLDPE) geomembrane
- 1-foot granular drainage layer
- 1.5-foot general fill rooting zone layer
- 6-inch-thick topsoil layer

Final cover will be constructed in accordance with s. NR 504.07, Wis. Adm. Code, and documented in accordance with ch. NR 516, Wis. Adm. Code.

The soil barrier layer and GCL design is utilized, a 24-inch-thick layer of compacted soil barrier material will be placed in accordance with s. NR 504.07(4)(a)(12) – (17), Wis. Adm. Code, and Section 5 of the CQA plan. GCL will be placed directly above the compacted soil barrier layer. Specifications for the materials, installation, and documentation of the GCL will meet the requirements of s. NR 504.07(4)(a), Wis. Adm. Code, and Section 11 of the CQA plan.

A 40-mil LLDPE geomembrane layer will be installed above the GCL in accordance with s. NR 504.07(5), Wis. Adm. Code, and Section 9 of the CQA plan. A 1-foot granular drainage layer will be installed above the geomembrane and will have a minimum hydraulic conductivity of 1.0×10^{-3} cm/sec, in accordance with s. NR 504.07(6)(a), Wis. Adm. Code, and Section 7 of the CQA plan.

A 1.5-foot-thick rooting layer will be installed immediately above the 1-ft drainage layer in accordance with s. NR 504.07(6), Wis. Adm. Code, and Section 6 of the CQA plan. A pipe drainage system will be installed within the rooting zone and will have outlets spaced approximately every 200 feet around the perimeter of the landfill. The rooting zone will be overtopped by a 6-inch layer of topsoil in accordance with s. NR 504.07(7), Wis. Adm. Code, and Section 8 of the CQA plan.

CCR LANDFILL PLANS, s. NR 514.045(1)(g), Wis. Adm. Code:

Fugitive Dust Control Plan, s. NR 514.07(10)(a), Wis. Adm. Code:

The fugitive dust control plan is included in Appendix O of the January 30, 2023, plan of operation modification report.

The fugitive dust control plan consists of the following measures to limit fugitive dust generated at the landfill.

- CCR delivered to the landfill is conditioned with water prior to being transported to the landfill.
- The landfill is designed and operated to have filling areas at different elevations to create a wind block that assists in the prevention of windblown dust during adverse weather conditions.
- The landfill is located within a narrow valley that provides wind protection on the north, east, and west sides of the landfill.

- CCR discharged from the trucks in the designated active area of the cell are graded, water conditioned, if necessary, and compacted to suppress dust generation. Leachate may be used for moisture conditioning and dust control in the active area of the landfill.
- Filling operations may be halted during high wind conditions.
- Access roads to the landfill are paved to minimize the generation of dust due to truck traffic and are swept and watered regularly. Vehicle speeds are reduced on unpaved access roads.
- CCR is covered by tarps when being transported in haul trucks. Track out pads are utilized to reduce tracking of CCR outside of the active area from haul vehicles.
- Active landfill cells are reduced to less than 7 acres and the working face is maintained as small as feasible.
- In areas not being actively filled, intermediate cover may be applied as necessary to help reduce the potential for windblown CCR.
- Final cover is installed as soon as final waste grades are achieved over a sufficient area to support a practical final cover installation work scope to minimize wind-generated dust in the active area.

The CCR fugitive dust control plan will be reviewed annually, and updated as necessary, in conjunction with preparation of the annual CCR fugitive dust control report required by s. NR 514.07(10)(a)(5), Wis. Adm. Code. The annual CCR fugitive dust control report will be included in the annual report in accordance with s. NR 506.20(3)(a), Wis. Adm. Code, and include a description of the actions taken by the owner or operator to control CCR fugitive dust, a record of all citizen complaints, and a summary of any corrective measures taken.

Run-On And Run-Off Control System Plan, s. NR 514.07(10)(b), Wis. Adm. Code:

The run-on and run-off control system plan is included in Attachment 4 of the July 24, 2024, addendum to the plan of operation modification report.

In order to control stormwater and prevent run-on to the active landfill, perimeter berms, diversion berms, downslope flumes, ditching, sedimentation basins, and culverts have been designed and constructed to control surface water during both the operation and post-closure periods of the landfill. The design of the surface water controls has been determined based on the operational periods when the landfill surface conditions would result in the greatest run-off volume and for the post-closure period. The surface water management system for the landfill was designed utilizing the 100-year, 24-hour storm event, which exceeds the 25-year, 24-hour storm event required by section s. NR 504.12(2)(a), Wis. Adm. Code.

In order to manage leachate and prevent leachate run-off from the landfill, the landfill has been designed and constructed with a leachate collection system to collect and remove leachate generated within the landfill. Perimeter berms work in conjunction with the leachate collection system to prevent stormwater that has contacted CCR material with the active area of the landfill from running off the landfill by directing it to be drained to the leachate collection system.

The run-on and run-off control plan will be reviewed at least every 5 years in accordance with s. NR 514.07(10)(b)(4), Wis. Adm. Code.

Closure Plan, s. NR 514.07(10)(c), Wis. Adm. Code:

The closure plan is included in Attachment 5 of the July 24, 2024 addendum to the plan of operation modification report.

The closure plan describes the engineering design of the landfill, phased development, a description of the final cover system, and how the final cover system will meet the applicable performance standards contained in s. NR

506.083(6), Wis. Adm. Code. In addition, it also includes an estimate of the maximum open area that would require closure at one time and an estimated closure schedule based on the anticipated landfill filling rates and disposal volumes.

The landfill has a phased development plan, describing the construction, operation, and closure of each phase of the landfill from the construction of Cell 1 to the closure of Cell 4. The development plan requires active landfill cells which have reached final waste grades to be closed as soon as practical to limit the maximum open area, leachate generation, and potential operational problems. The first phase of landfill closure was for the construction of final cover over portions of Cell 1, which occurred in 2010. As of the time of this approval, final cover has been constructed on the entirety of Cell 1 and a portion of Cell 2 with the most recent final cover construction event occurring in 2017. Cell 3 is currently active and being filled, it is anticipated to be capped with final cover in 2029. Cell 4 has yet to be constructed.

In accordance with s. NR 514.07(10)(c)(6), Wis. Adm. Code, an estimated schedule for completion of all closure activities, was included in the closure plan of the plan modification report, Table 1 below displays this estimated schedule. The estimated year in which all closure activities will be completed for each area is dependent on CCR generation rates, beneficial reuse programs, and disposal rate volumes.

Table 1: Estimated Final Cover Construction Schedule

Phase	Area to Receive Final Cover (Acres)	Estimated Closure Date
Portion of Cell 1	3.6	2010
Portions of Cells 1 and 2A	1.7	2012
Portions of Cells 1, 2A, and 2B	2.8	2017
Cell 3	5.84	2029
Cell 4A	6.11	2038
Cell 4B	12.05	2057

When CCR placement is completed in a CCR unit, or if early closure is required, the unit will be closed by covering the CCR with the final cover system described in the previous section of the project summary. Prior to final cover system construction, the CCR surfaces will be graded and compacted to establish a firm subgrade for final cover construction. In addition, all required notifications will be submitted to the department, and DPC will obtain all additional necessary permits (for example, general permit coverage for construction stormwater management). The initiation of closure activities will commence no later than 30 days after the known final receipt of CCR as required by ss. NR 506.083(2)(a) and (b), Wis. Adm. Code.

DPC will provide notification to the department for the following:

- Intent to initiate closure.
- Closure completion.
- Availability of the written Closure Plan and any amendments.

The closure plan will be modified when there is a change in the operation of the CCR unit that affects the plan or when unanticipated events warrant revision to the closure plan as required by s. NR 514.07(10)(c)(7), Wis. Adm. Code.

Long-Term Care Plan, s. NR 514.07(10)(d), Wis. Adm. Code:

The long-term care plan is included in Attachment 13 of the January 17, 2024, addendum to the plan of operation modification report.

The long-term care plan includes provisions for the following: maintaining the integrity and effectiveness of the final cover system, maintaining the leachate collection and removal system, maintaining the groundwater monitoring system, and monitoring the groundwater in accordance with the requirements of ch. NR 507, Wis. Adm. Code, during the long-term care period. An estimated schedule for long-term care activities is provided in Table 2.

Table 2: Estimated Long-Term Care Activities Schedule

Monitoring and Maintenance Activities	**Frequency**
Final Cover Vegetation Maintenance	Annually
Inspection of Stormwater Control Structures and Final Cover System	Annually
Final Cover Maintenance and Repairs	As needed, determined by annual inspection
Leachate Collection System Cleaning	Annually
Environmental Monitoring - Groundwater and Leachate	Semi-Annually

The owner/operator will perform annual inspections of the landfill surface, leachate collection system, and groundwater monitoring systems. If issues are noticed during the inspection, action will be taken to remedy the situation. Eroded areas will be repaired and reseeded. Repairs or replacement will be performed on the groundwater monitoring system as needed.

Final Cover System Maintenance:

DPC will be responsible for maintaining the integrity of the final cover system. The landfill surface will be inspected annually. The annual inspection will note any final cover defects requiring repair. Maintenance of the final cover will include repairs due to settlement, subsidence, erosion, or other events and regular maintenance of the cover vegetation. Final cover system repairs will be completed as soon as practical. Repair and maintenance activities will be noted in the annual inspection report required under s. NR 514.07(10)(d)1.b., Wis. Adm. Code. The final cover will be managed as needed to inhibit the growth and presence of woody vegetation. Annual mowing is not required for areas of final cover where native prairie grass is seeded; however, prevention of woody vegetation growth is still required for these areas. DPC may utilize prescribed burning to control the establishment of woody vegetation and undesired cool season grasses in the areas of final cover where native prairie vegetation has become well established as long as they received concurrence from the department prior to each prescribed burn event. Pursuant to condition 12 of the attached approval, DPC will have to request concurrence from the department at least 30-days prior to conducting a prescribed burn at the Phase IV Landfill.

Leachate Collection System Maintenance:

DPC will be responsible for maintaining the effectiveness of the leachate collection and removal system and operating the leachate collection and removal system in accordance with the requirements of s. NR 504.12(3)(a), Wis. Adm. Code. The leachate collection system will be jetted with a water jet cleanout device on an annual basis and will be inspected with a video camera every five years at a minimum. All blockages of the leachate collection pipe, pipe breaks, or any impedances will be investigated. A summary report will be submitted for each pipe cleaning and each video camera inspection event in accordance with s. NR 506.07(5)(g), Wis. Adm. Code. This information can be submitted as part of the landfill's annual report.

Following the closure of the landfill, leachate removed from the leachate collection tank will either be sent to the wastewater treatment facility located at the DPC John P. Madgett Station located in Alma, WI, or to the City of La Crosse wastewater utility treatment facility located in La Crosse, WI. The landfill's leachate monitoring program will continue to be conducted during the long-term care period in accordance with the landfill's environmental monitoring plan.

Groundwater Monitoring Network Maintenance:

DPC will be responsible for maintaining the groundwater monitoring system and monitoring the groundwater in accordance with the requirements of ch. NR 507, Wis. Adm. Code. The groundwater monitoring network will be inspected on a semi-annual basis, in conjunction with the groundwater sampling. Any noted deficiencies, damage, or required repairs will be completed as soon as practical. All groundwater monitoring will be completed in accordance with the facility's groundwater monitoring plan in perpetuity unless otherwise approved by the department. All sampling and analysis will be completed in accordance with the facility's sampling and analysis plan.

Currently, the contact information for the landfill during the post-closure/long-term care period is as follows:

Manager, Water and Waste Programs
Dairyland Power Cooperative
3200 East Avenue South
La Crosse, WI 54601
Phone: 608-787-1311
ccrinfodesk@dairylandpower.com

The final use of the landfill will be limited to green space or other activities that do not disturb the integrity of the final cover, base liner, or any other component of the final cover, leachate collection system, or groundwater monitoring system.

The post-closure/long-term care plan will be modified when there is a change in the operation of the CCR unit that affects the plan or when unanticipated events warrant revision to the closure plan as required by s. NR 514.07(10)(c)(7), Wis. Adm. Code.

GROUNDWATER MONITORING SYSTEM, s. NR 514.045(1)(h), Wis. Adm. Code:

CCR Groundwater Monitoring System Plan, ss. NR 507.15(3)(a) through (e), Wis. Adm. Code:

DPC proposed six water table monitoring wells (W-100R, W-101, W-102R, W-105, W-106, W-107) and one piezometer (W-100AR) as CCR wells in accordance with s. NR 507.15(3), Wis. Adm. Code. Three of the proposed CCR wells are hydraulicly upgradient to the landfill including W-101, W-102R, and W-107. The remaining four proposed CCR monitoring wells are hydraulicly downgradient to the landfill. These monitoring wells meet the requirements outlined in s. NR 507.15(3)(c), Wis. Adm. Code.

The site is located within the Western Upland physiographic region of South-Central Wisconsin adjacent to the Mississippi River. The landfill is situated within a valley surrounded by steep slopes. The thickness of the unconsolidated soils beneath the landfill ranges from approximately 15 to 60 feet. The sandy soils have thicknesses between 20 to 60 feet beneath the landfill. The aquifer present beneath the Site is the sandy soil and underlying Cambrian Sandstone. The saturated thickness of the aquifer ranges from 10 to 20 feet in the sandy soil.

Well Drilling Logs in the vicinity of the landfill present sandstone thicknesses between 338 feet to 435 feet. Precambrian igneous and metamorphic rock underlies the Cambrian sandstone.

Groundwater flow beneath the landfill is generally to the south. DPC identifies that downward vertical gradients are present in the aquifer. A groundwater elevation map is in Attachment 8 of the January 17, 2024, addendum to the plan of operation modification report. The three water table wells and one piezometer located downgradient to the landfill provide both horizontal and vertical coverage for detecting a potential release.

The background wells (W-101, W-102R, and W-107) are located to the north of the landfill, upgradient to the landfill. The downgradient wells (W-100AR, W-100R, W-105, W-106) are located to the south of the landfill. The downgradient wells were installed as close as practicable to the CCR limits of waste considering the site layout and obstructions. All CCR monitoring wells are screened within the sandstone bedrock aquifer.

Monitoring wells will be operated and maintained so that the devices perform to the design specifications throughout the life of the monitoring program. If additional monitoring wells are installed in the future, documentation will be performed and submitted as required by s. NR 507.15(3)(e), Wis. Adm. Code.

In addition to the CCR groundwater monitoring system DPC has an additional two water table monitoring wells (W-42, and W-104) and five piezometers (P-42A, P-42B, W-101A, W-102AR, and W-104A) that are included in the state's detection monitoring plan established in the May 15, 2001 plan of operation approval.

The Phase IV Landfill has one cell (Cell 4) with two phases yet to be constructed. As part of the construction of phase 4A monitoring wells W-42, P-42A, and P-42B as set to be abandoned and replaced with W-42R, and W-42AR west of the extent of Cell 4. The planned replacement well locations can be seen in Figure 2 of the Plan Modification Report for Initial Permitting.

Baseline Groundwater Quality, s. NR 507.15(3)(i), Wis. Adm. Code:

Baseline groundwater quality will be established for each CCR well in accordance with s. NR 507.18, Wis. Adm. Code. Baseline sampling at CCR wells during the initial permitting process under s. NR 514.045, Wis. Adm. Code, included additional sampling events at existing wells for constituents listed in s. NR 507 Appendix I, Tables 1A and 3, Wis. Adm. Code, such as manganese, that were not collected to meet background sampling requirements of the Federal CCR Rule because the parameters are not included in Appendix III or IV to 40 CFR Part 257.

Baseline groundwater quality calculations for preventative action limits (PALs) and alternative concentration limits (ACLs) for CCR wells at the Phase IV Landfill were calculated and proposed in accordance with s. NR 507.27, Wis. Adm. Code, and the department's guidance for calculating PALs and ACLs (PUB-WA-1105).

The CCR wells had previously been issued PALs and ACLs in the May 15, 2001 conditional plan of operation approval. These historic PALs and ACLs were calculated for dissolved parameters as opposed to the total parameters that will now be sampled at the wells. The department has calculated new PALs and ACLs for total parameters and will supersede the old standards.

Groundwater quality standard exemptions in accordance with ss. NR 507.29 and NR 140.28, Wis. Adm. Code, were requested and are being granted for the following CCR wells and parameters:

- Nitrite plus nitrate (as N) at monitoring wells W-100R, W-100AR, W-101, W-105, W-106, and W-107.

The department did not calculate new standards for the non-CCR wells as PALs and ACLs were established for these wells in the May 15, 2001 conditional plan of operation approval and the September 22, 2006 plan of operation approval modification. Condition 24 of the May 15, 2001 Conditional Plan of Operation Approval and conditions 1 and 2 of the September 22, 2006 plan of operation approval modification will be superseded and the standards will be outlined in the tables attached to the approval.

Detection Groundwater Monitoring, s. NR 507.15(3)(L), Wis. Adm. Code:

Detection monitoring will be performed at CCR wells on a semiannual basis in March and September.

The department will be informed in accordance with s. NR 507.26, Wis. Adm. Code, of any CCR well that purges dry, is damaged or obstructed, or in any way is rendered such that a sample was unable to be collected from the well during a scheduled sampling event when the sampling event data are submitted.

A notification and response in accordance with s. NR 507.30, Wis. Adm. Code, will be made when a groundwater standard at the point of standards application has been attained or exceeded at any CCR well. This response includes the establishment of an assessment monitoring program meeting the requirements under s. NR 508.06, Wis. Adm. Code, unless the exceedance is determined by the department to be from a source other than the CCR landfill, or that the groundwater standard exceedance resulted from error in sampling, analysis, or natural variation in background groundwater quality in accordance with s. NR 508.06(2)(f)2., Wis. Adm. Code.

The point of standards application for a groundwater quality exceedance at a CCR well is 0 feet from the waste boundary.

Annual Groundwater Monitoring and Corrective Action Report, s. NR 507.15(3)(m), Wis. Adm. Code:

Annual groundwater monitoring and corrective action reports will be submitted in accordance with s. NR 507.15(3)(m), Wis. Adm. Code, for monitoring wells included in the CCR well monitoring program.

SAMPLING PLAN, s. NR 514.045(1)(i), Wis. Adm. Code:

Sampling Plan, ss. NR 507.15(3)(f), (g), (h), (j), (k) Wis. Adm. Code:

The environmental sampling and analysis plan included in Attachment 10 of the January 17, 2024, addendum to the plan of operation modification report addresses the detection groundwater monitoring (CCR wells and non-CCR wells), leachate monitoring, surface water monitoring, and settlement monitoring.

Appropriate sampling and analytical methods are described in the sampling plan. Groundwater elevation data will be reported to the department semiannually (March and September) in accordance with s. NR 507.26, Wis. Adm. Code. During each sampling event, depths to groundwater at all wells will be measured immediately prior to purging and within a period of time short enough to avoid temporal variations in groundwater flow which could preclude accurate determination of groundwater flow rate and direction. The rate and direction of groundwater flow will be determined for each semiannual sampling event. Field pH, field temperature, and specific conductance will be measured using a YSI® Pro DSS or equivalent multiparameter meter equipped with a flow-through cell.

Monitoring wells will be generally sampled from upgradient to downgradient except in situations with impacted wells which will be sampled after unimpacted wells. If multiple wells are determined to be impacted the order of sampling will be from the lowest concentration of contaminant to the highest concentration of contaminant.

Monitoring wells will be sampled in an order that allows for efficient collection of all samples to avoid effects from temporal variations in groundwater flow. Pumps used for purging and sample collection at CCR and non-CCR monitoring wells are dedicated to specific wells. Monitoring wells will be purged using low-flow sampling methods.

All groundwater samples collected under the CCR monitoring program will be unfiltered (total analysis). Groundwater samples collected under the plan of operation groundwater monitoring plan (non-CCR Wells) that predates the requirements of s. NR 514.045, Wis. Adm. Code, will be filtered (dissolved analysis) or unfiltered (total analysis) as shown in Table 1 of Attachment 1 of the attached approval.

The department will be notified in writing if a groundwater standard at a point of standards application has been attained or exceeded within 60 days of completing sampling and analysis at any CCR well in accordance with s. NR 507.15(3)(k), Wis. Adm. Code. The department will be notified in writing if a groundwater standard at a point of standards application has been attained or exceeded within 60 days of the end of the sampling period at any non-CCR well in accordance with s. NR 507.30, Wis. Adm. Code.

RECORD KEEPING

All plan modifications, documentation reports, annual reports, plans, notifications, and amendments will be placed in the facility's operating record and on DPC's CCR Rule Compliance Data and Information website as required by s. NR 506.17(3), Wis. Adm. Code.

CLOSURE AND LONG-TERM CARE COST ESTIMATES

Although DPC will be perpetually responsible, in accordance with s. 289.41(1m)(c), Wis. Stats., for the long-term care of this landfill, proof of owner financial responsibility is only required for the closure of the most expensive area, and for long term-care of the entire facility for a period of 40 years. Closure costs reflect the most expensive area to close, which includes 12.4 acres of the landfill. The closure costs include the purchasing, hauling, placement, and documentation testing of all the final cover materials including soils, membranes, fabrics, grids, and topsoil; seeding, fertilizing, mulching, and labor; the cost of preparing an engineering report documenting the work performed and a 10% contingency per s. NR 520.02(2), Wis. Adm, Code. Long-term care costs include land surface care; leachate pumping, transportation, monitoring, and treatment; groundwater monitoring including sample collection and analysis; leachate collection line cleaning on an annual basis; the annual cost of electricity for maintaining the closed site; and a 10% contingency per s. NR 520.02(3), Wis. Adm, Code.

BEFORE THE
STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

CONDITIONAL PLAN OF OPERATION APPROVAL MODIFICATION FOR INITIAL PERMITTING OF COAL COMBUSTION RESIDUALS (CCR) LANDFILL FOR THE DAIRYLAND POWER COOPERATIVE ALMA OFF-SITE DISPSOAL FACILITY, PHASE IV LANDFILL, LICENSE #4126

FINDINGS OF FACT

The Department of Natural Resources (department) finds that:

1. Dairyland Power Cooperative (DPC) owns and operates a solid waste disposal facility located in the NE¼ of the NE¼ of Section 19 and portions of Sections 18 and 20, Town 21 North, Range 12 West, Town of Belvidere, Buffalo County, Wisconsin.

2. The department issued a conditional plan of operation approval for the solid waste disposal facility on May 15, 2001.

3. The department received a plan of operation modification request on January 30, 2023, from TRC on behalf of DPC for the initial permitting of a CCR landfill. The department received the review fee of $30,500 on February 16, 2023.

4. The information submitted in connection with the plan of operation modification request includes the following:

    a. A report titled “Plan Modification for Initial Permitting of CCR Landfills Alma Off-site Disposal Facility, Phase IV Landfill (License No. 4126)”, dated and received by the department on January 30, 2023.

    b. An addendum to the plan modification report titled “Dairyland Power Cooperative – Alma Off-Site Disposal Facility Phase IV Landfill Plan Modification for Initial Permitting of CCR Landfills – Addendum 1”, dated and received by the department on January 17, 2024.

    c. An addendum to the plan modification report titled “Dairyland Power Cooperative – Alma Off-Site Disposal Facility Phase IV Landfill Plan Modification for Initial Permitting of CCR Landfills – Addendum 2”, dated and received by the department on July 24, 2024.

    d. A letter containing comments that DPC and TRC Companies had on the department’s draft plan of operation modification approval. This letter was dated and received by the department on March 28, 2024.

    e. An email from TRC Companies containing a request for approval to conduct prescribed burns to manage vegetation in areas of the Phase IV Landfill’s final cover where native prairie vegetation is established. This email received by the department on April 10, 2025.

    f. Emails from, TCR Companies discussing a request o modify condition 1 of the department’s January 29, 2010 construction documentation approval for Cell 1 cap construction at the Phase II Landfill. These emails were received by the department on April 7, 2025 and April 17, 2025.

5. Additional documents considered in connection with the review of the plan of operation modification request include the following:

    a. The department's Solid Waste Technical Guidance for PAL/ACL Calculations (guidance document WA 1105, 2007).

    b. An internal department memo dated August 1, 2024, from the department's Drinking Water and Groundwater Program concurring with the request for an exemption from ch. NR 140, Wis. Adm. Code, groundwater quality standards for Nitrite + Nitrate (as N) at wells W-100R, W-100AR, W-101, W-105, W-106, and W-107.

    c. A memo to the Dairyland Power Alma Off-Site Disposal Facility, Phase IV Landfill (Phase IV Landfill) file dated May 5, 2025, summarizing the department's evaluation of the preventive action limits (PALs) and alternative concentration limits (ACLs) proposed in the plan of operation.

    d. The department's February 20, 1997 memo to the file titled "Wetland Delineation for Feasibility Study at DPC-Alma Offsite."

    e. The department's September 10, 1999 feasibility determination.

    f. The department's May 15, 2001 plan of operation approval.

    g. The department's September 22, 2006 plan of operation approval modification.

    h. The department's March 8, 2023 email to DPC, requesting that the initial permitting plan modification be posted to their public website.

    i. The department's April 26, 2023 incompleteness letter for the initial permitting plan modification.

    j. The department's April 15, 2024 incompleteness letter for the initial permitting plan modification.

    k. The department's May 9, 2024 letter regarding the request for exemption to s. NR 504.06(5)(j), Wis. Adm. Code, included in the initial permitting plan modification.

    l. The department's October 14, 2024 plan modification approval for the one-time disposal of a new waste stream for the Phase IV Landfill.

    m. Groundwater monitoring data for the Phase IV Landfill contained in the department's Groundwater and Environmental Monitoring System (GEMS).

    n. The department's files pertaining to the Phase IV Landfill (License #4126).

6. Additional information considered in connection with the modification request include the following:

    a. A public information meeting was held virtually on November 19, 2024, to comply with s. NR 514.045(3), Wis. Adm. Code, regarding the initial permitting of CCR landfill. During this meeting, the department did not receive any oral comments from the public regarding the proposed plan modification.

b. A 60-day public comment period was held between October 31, 2024, and January 2, 2025, to comply with s. NR 514.045(3), Wis. Adm. Code, regarding the initial permitting of a CCR landfill. The department did not receive any written comments from the public regarding the proposed plan modification.

c. A 30-day public comment period was held between March 7, 2025 and April 6, 2025 to comply with s. NR 514.045(4), Wis. Adm. Code, regarding the initial permitting of a CCR landfill. The department did not receive any written comments from the public regarding the proposed plan modification.

7. Additional facts relevant to the review of the plan of operation modification request include:

a. The initial permitting for CCR landfills plan modification is required in accordance with s. NR 514.045, Wis. Adm. Code, to update the plan of operation to comply with the applicable requirements under chs. NR 500 to 520, Wis. Adm. Code, for CCR landfills.

b. The plan of operation report demonstrated all phases of the CCR landfill meet the requirements listed in s. NR 514.045 (1), Wis. Adm. Code.

c. CCR landfills are regulated under 40 CFR Part 257 A and D. Wisconsin updated chs. NR 500 – 520, Wis. Adm. Code, to incorporate federal requirements related to CCR landfills in July 2022. Wisconsin intends to seek Environmental Protection Agency (EPA) approval for a partial permit program for CCR landfills in Wisconsin. To obtain EPA approval of a partial permit program for CCR landfills, Wisconsin regulations are required to be as protective as the federal rule.

d. 40 CFR 257.95(h)(2)(i) establishes a maximum contaminant level (MCL) for Cobalt at 6 micrograms per liter (ug/l). This standard is lower than the PAL established in s. NR 140 Table 1, Wis. Adm. Code. Preventive action limits will be established for CCR wells at 6 ug/l to be as protective as federal rule.

e. DPC currently treats the leachate generated at the Phase IV Landfill at their wastewater treatment facility located onsite at their John P. Madgett Station in Alma, WI. DPC is also approved to send their leachate to the City of La Crosse wastewater treatment facility for treatment as part of their initial permitting plan modification. Pursuant to condition 11 of this approval, DPC will need to notify the department at least 30 days prior to sending leachate to an alternative wastewater treatment facility other than those approved as part of the initial permitting plan modification.

f. The initial permitting plan modification request included a proposal to use 2 feet of moisture-conditioned and compacted fly ash as the barrier layer of the final cover system, which was approved by the department in the past as part of a plan modification approval on March 4, 2004. The department informed DPC that it was unlikely to approve that design under current Wisconsin Administrative Code and department policies. DPC therefore withdrew this proposal from the initial permitting plan modification request.

g. DPC proposed the parameter dissolved selenium as part of their CCR well monitoring program. S. NR 507.15(3)(j), Wis. Adm. Code, states that the owner or operator of the CCR landfill shall measure total recoverable metals concentrations when measuring groundwater quality for each CCR well. DPC will sample total selenium at all CCR wells as part of the CCR sampling plan.

h. Condition 1 of the department's January 29, 2010 construction documentation approval for Cell 1 cap construction required DPC to inspect the Cell 1 cap after every major storm event and on a monthly basis. Section NR 506.20(2), Wis. Adm. Code requires DPC to conduct annual inspections of the Phase IV

Landfill and provide documentation of the inspection in their annual report. Additionally, the Phase IV Landfill's long-term care plan includes a requirement for annual inspections of the stormwater control structures and final cover. Therefore, this condition is redundant and per condition 13 of this approval the department is rescinding it. DPC is still required to maintain and repair the capped areas of the Phase IV Landfill as necessary to ensure it remains in the condition it was in when the department approved its construction documentation.

8. The department considered the following information pertaining to the request for groundwater quality exemptions:

   a. Dairyland Power Alma Off-Site Disposal Facility, Phase IV Landfill has requested an exemption from ch. NR 140, Wis. Adm. Code, groundwater quality standards for Nitrite + Nitrate (as N) in accordance with s. NR 140.28(1), Wis. Adm. Code, to allow for approval of this plan of operation for initial permitting where a preventive action limit (PAL) or an enforcement standard (ES) adopted under ss. NR 140.10 or 140.12, Wis. Adm. Code, has been attained or exceeded. The department considered the following information while reviewing the need for exemptions to groundwater standards at this facility.

   b. Baseline groundwater monitoring data and supporting information provided in the January 30, 2023 plan of operation modification and the January 17, 2024, Addendum No. 1.

   c. Well construction details, boring logs, well location plan sheets, and water table maps provided in the January 30, 2023 plan of operation modification request and the January 17, 2024, Addendum No. 1.

      i. The landfill design specifications provided in the January 30, 2023 plan of operation modification request and the following addenda:

         1. January 17, 2024, Addendum No. 1
         2. July 23, 2024, Addendum No. 2

      ii. Groundwater sample data collected from around the Phase IV Landfill that is available in the department's Groundwater and Environmental Monitoring System (GEMS) dating back to 1982.

      iii. Information in the department's files relating to groundwater conditions at the Phase IV Landfill.

      iv. Previously granted exemptions from the September 10, 1999 feasibility determination and the May 15, 2001 plan of operation approval.

   d. The department finds the following related to the design of the landfill and substances associated with the Phase IV Landfill that exceed ch. NR 140, Wis. Adm. Code, groundwater quality standards, including Nitrite + Nitrate (as N):

      i. To minimize any incremental increase in contamination from the Phase IV Landfill the facility is designed to contain and collect leachate. The design of the Phase IV Landfill includes a composite liner system with a geosynthetic clay liner (GCL) and a geomembrane, a gravity drain leachate collection system, and a composite final cover system. These design features will limit increases of contaminants in the groundwater.

      ii. In accordance with s. NR 504.05(1), Wis. Adm. Code, the department considers landfills designed in substantial conformance with these design criteria to be designed to achieve the lowest possible concentration of these substances in the groundwater which is technically and economically feasible.

iii. The Phase IV Landfill will not cause the concentrations of the substances with detection sample concentrations between the PAL and the ES to attain or exceed the ES for these substances at a point of standards application because of the facility design.

iv. The anticipated increase in the concentrations of these substances does not present a threat to public health or welfare because of the landfill design.

v. Based on an examination of site conditions, the department finds that the groundwater concentrations of Nitrite + Nitrate (as N) in the site area were found at concentrations exceeding the ch. NR 140, Wis. Adm. Code, groundwater quality standards.

e. Based on an examination of the groundwater quality data for the Phase IV Landfill and the information in findings of fact 8.a and 8.b above, the department finds the requested groundwater quality exemptions to be warranted for the following wells and substances:

i. **Preventive Action Limit (PAL)** exemptions for substances of **public welfare concern and nitrite plus nitrate (as N)** in accordance with s. NR 140.28(3)(a), Wis. Adm. Code:

Substance:	**Monitoring Wells:**
Nitrite + Nitrate (as N)	W-100R, W-100AR, W-101, W-105, W-106, and W-107
Notes: - Baseline concentrations attain or exceed the **PAL** but are below the ES in **two or more** sample rounds at the monitoring wells. - PALs for substances of public welfare concern are established in s. NR 140.12, Wis. Adm. Code, and for nitrite plus nitrate (as N) in s. NR 140.10, Wis. Adm. Code.	

9. The department considered the following information with respect to the review of PALs and alternative concentration limits (ACLs):

a. The PALs for indicator parameters and the ACLs established in this approval are based on at least 8 sample results for each substance at each monitoring well.

b. The PALs for indicator parameters established in this approval are equal to the mean background water quality plus 3 standard deviations or the mean background water quality plus the minimum increase specified in Table 3, ch. NR 140, Wis. Adm. Code, whichever is greater.

c. The ACLs established in this approval are equal to the mean background water quality plus 2 standard deviations.

d. The calculated PALs and ACLs were rounded up to 2 significant figures. The indicator parameter PALs, ACLs, and special conditions set forth below are needed to assure that an increase in the concentration of Nitrite + Nitrate (as N) does not cause an increased threat to public health or welfare or inhibit compliance with ch. NR 500 through 538, Wis. Adm. Code.

e. The department approved PALs and ACLs in the department's May 15, 2001 plan of operation approval and the September 22, 2006 conditional plan of operation modification approval for the state monitoring program wells. The previously approved PALs and ACLs for non-CCR wells remain in effect. The department will be superseding the previous PALs and ACLs for the CCR Wells as they were issued for dissolved parameters and are no longer relevant to the monitoring of total parameters. Piezometer station 1 has been abandoned since the issuance of PALs and ACLs and thus the PALs and ACLs assigned to it will be superseded.

f. The parameter chemical oxygen demand (COD) will no longer be part of the monitoring program for the Phase IV Landfill. The PALs issued for the on-site monitoring wells for COD are no longer needed and are removed from PAL/ACL tables in Attachment 2.

g. The department had previously communicated the intent to establish PALs for temperature at the CCR wells. Section NR 507.27(1), Wis. Adm. Code, states that PALs are not required for temperature. The department will not be issuing PALs for temperature at the CCR wells.

10. The department considered the following information pertaining to the request for exemption to s. NR 504.06(5)(j), Wis. Adm. Code, to allow for horizontal pipe penetrations through the south sideslope of the landfill to allow leachate to gravity drain from the landfill to the leachate collection tank south of the landfill.

    a. An exemption to s. NR 504.06(5)(j), Wis. Adm. Code, was originally granted for the Phase IV Landfill as part of the department's May 15, 2001, plan of operation approval. The exemption allowed for a gravity drain leachate collection and removal system, that includes horizontal pipe penetrations through the side slope of the landfill, which was constructed for Cells 1 through 3.

    b. Renewal of this exemption was requested for future Cell 4 as part of the initial permitting plan modification.

    c. The plan modification report included a demonstration of the existing gravity drain leachate collection and removal system for Cells 1 through 3. The existing gravity drain system was demonstrated to be effective at removing leachate from the landfill and was demonstrated to have an effective means to prevent leachate transport from the landfill to the environment via the horizontal pipe penetrations within the south slope of the landfill.

11. Granting the exemptions that are set forth below will not inhibit compliance with Wisconsin solid waste management standards in chs. NR 500 through 538, Wis. Adm. Code.

12. The special conditions set forth below are needed to assure that the site is operated and maintained in an environmentally sound manner. If the special conditions are complied with, the proposed modification will not inhibit compliance with the standards set forth in the applicable portions of chs. NR 500-538, Wis. Adm. Code.

CONCLUSIONS OF LAW

1. The department has the authority under s. 289.30(6), Wis. Stats., to modify a plan of operation approval if the modification would not inhibit compliance with the applicable portions of chs. NR 500-538, Wis. Adm. Code.

2. The department has the authority to approve a modification to the plan of operation with special conditions if the conditions are needed to ensure compliance with the applicable portions of chs. NR 500-538, Wis. Adm. Code.

3. The department has authority under ss. NR 140.28 and NR 507.27, Wis. Adm. Code, and ss. 160.19(8) to (10), Wis. Stats., to grant exemptions to groundwater quality standards and to establish corresponding alternative concentration limits.

4. The department has authority under s. NR 140.20, Wis. Adm. Code, and s. 160.15(3), Wis. Stats., to establish preventive action limits for groundwater indicator parameters at waste disposal facilities.

5. The conditions of approval set forth below are needed to ensure compliance with the applicable portions of chs. NR 500-538, Wis. Adm. Code.

6. In accordance with the foregoing, the department has the authority under s. 289.30(6), Wis. Stats., to issue the following conditional plan of operation modification approval.

GRANT OF EXEMPTION

1. The Phase IV Landfill has demonstrated circumstances which warrant an exemption to the groundwater standards in ch. NR 140, Wis. Adm. Code, as specified in s. NR 140.28, Wis. Adm. Code, for the wells and substances listed below. The exemption allows the department to approve a CCR landfill at a location where a PAL or ES adopted under ss. NR 140.10 or 140.12, Wis. Adm. Code, has been attained or exceeded in the baseline monitoring sampling results. Refer to Findings of Fact 8.a – 8.c for additional information. This exemption is granted under the authority of ss. NR 140.28 and NR 507.27, Wis. Adm. Code, and ss. 160.19(8) to (10), Wis. Stats. as noted above. The following exemptions to the specified ch. NR 140, Wis. Adm. Code, groundwater quality standards are hereby granted and apply only to the Phase IV Landfill and do not apply to any other present or past facility or activity:

   Preventive Action Limit (PAL) exemptions for substances of **public welfare concern and nitrite plus nitrate (as N)** in accordance with s. NR 140.28(3)(a), Wis. Adm. Code:

Substance:	**Monitoring Wells:**
Nitrite + Nitrate (as N)	W-100R, W-100AR, W-101, W-105, W-106, and W-107

2. The Phase IV Landfill has demonstrated circumstances which warrant an exemption to s. NR 504.06(5)(j), Wis. Adm. Code, to allow for horizontal pipe penetrations through the south sideslope of the landfill to allow leachate to gravity drain from the landfill to the leachate collection tank south of the landfill. Thereby allowing the landfill to be designed and constructed with a gravity drain leachate collection and removal system. Refer to Findings of Fact 10.a – 10.c for additional information pertaining to this request for a grant of exemption. The exemption is hereby granted for s. NR 504.06(5)(j), Wis. Adm. Code.

CONDITIONAL PLAN OF OPERATION APPROVAL MODIFICATION

The department hereby approves the proposed plan of operation approval modification for the initial permitting of a CCR landfill for the Dairyland Power Alma Off-Site Disposal Facility, Phase IV Landfill, subject to compliance with chs. NR 500-538, Wis. Adm. Code, and the following conditions:

1. The landfill owner or operator shall place all of the following on the landfill's publicly accessible internet site and shall do so in accordance with the requirements specified in s. NR 506.17(3), Wis. Adm. Code.

a. The landfill's annual report required under s. NR 506.20(3), Wis. Adm. Code.

b. The landfill's notification required by s. NR 506.084(2)(b), Wis. Adm. Code, related to the end of the long-term care proof period.

c. All notifications required for CCR landfills in addition to those specified under s. NR 506.17(3)(d), Wis. Adm. Code.

d. A copy of the affidavit for the deed notation required under s. NR 506.083(4), Wis. Adm. Code.

2. The annual report required by s. NR 506.20(3), Wis. Adm. Code, shall also include the following:

a. A summary report for leachate line cleaning and video camera inspection required by s. NR 506.07(5)(g), Wis. Adm. Code.

b. The landfill compliance certification required by s. NR 506.19(1), Wis. Adm. Code.

c. The following information pertaining to the non-CCR well environmental monitoring program:

i. A summary of groundwater sampling results (including water supply well data) that exceed any approved PAL, or ACL or ch. NR 140, PAL or ES (where ACLs are not approved), and an assessment of the cause and significance of the exceedances.

ii. A groundwater elevation contour map with a summary of any significant change in flow patterns compared to previous flow patterns, unless otherwise approved by the department in writing.

iii. A summary of the status and condition of all environmental monitoring devices including:

1. A list of all monitoring devices that did not function properly or were damaged.

2. A description of repairs, replacements, or modifications completed to regain the function of the monitoring device.

3. A summary of anticipated significant monitoring device activities for the upcoming year, such as installations or abandonments.

3. The landfill owner or operator shall notify the department when the information required under s. NR 506.17(3)(d), Wis. Adm. Code, and Condition 1. above have been placed on the landfill's publicly accessible internet site.

4. The landfill owner or operator shall maintain procedures within the fugitive dust control plan for logging citizen complaints received by the landfill involving CCR fugitive dust events at the facility throughout the active life of the landfill.

5. Environmental monitoring shall be performed during both the active life and after closure in accordance with the schedules provided in the environmental monitoring tables of Attachment #1.

   This condition supersedes conditions 19 and 20 of the department's May 15, 2001 plan of operation approval.

6. A ch. NR 140, Wis. Adm. Code, preventive action limit for total cobalt shall be established at 6 ug/l for all CCR monitoring wells including W-100R, W-100AR, W-101, W-102R, W-105, W-106, and W-107 to correspond to the MCL established in 40 CFR 257.95(h)(2)(i).

7. The ch. NR 140, Wis. Adm. Code, PALs, and ACLs for the groundwater monitoring points shall be those listed in Attachment #2.

   This condition supersedes condition 24 of the department's May 15, 2001 plan of operation approval and conditions 1 and 2 of the department's September 22, 2006 plan of operation modification approval.

8. The PALs and ESs for all other substances not identified in Attachment #2 shall be as specified in ch. NR 140, Wis. Adm. Code, unless specifically approved by the department in writing.

9. DPC shall notify the department's waste management engineer assigned to this site a minimum of one week prior to beginning each of the construction events listed below for the purpose of allowing the department to inspect the work. A fee shall be paid to the department for each required inspection in accordance with s. NR 520.04(5), Wis. Adm. Code. The inspection fees shall be paid at the time the construction documentation review fee is submitted to the department.

   Liner Construction Events
   a. Sub-base grade excavation and stormwater controls
   b. Soil barrier layer placement
   c. Geosynthetic clay liner (GCL) deployment
   d. Geomembrane deployment and seaming
   e. Drainage blanket placement/leachate line installation
   f. Leak location survey and/or repairs

   Final Cover Construction Events
   g. Barrier soil placement and stormwater controls
   h. Geomembrane cap installation/seaming
   i. Geosynthetic clay liner installation (if used)
   j. Drainage layer installation
   k. Placement of piping within the drainage layer
   l. Rooting zone and topsoil placement

This condition supersedes condition 2 of the department's March 4, 2004 plan modification approval.

10. Proof of financial responsibility for closure and long-term care shall be adjusted in accordance with ch. NR 520, Wis. Adm. Code. The proof of financial responsibility shall be established based upon the approved closure and long-term care cost estimates included in the attached Attachment #3 Tables 1 and 2.

This condition supersedes condition 1 of the department's December 3, 2019 plan modification approval.

11. DPC shall notify the department in writing 30 days prior to beginning to haul leachate to a wastewater treatment facility other than the wastewater treatment facility located at the DPC John P. Madgett Station in Alma, WI and the La Crosse wastewater treatment facility. The notification shall include the name of the wastewater treatment facility and a copy of the leachate treatment agreement.

12. DPC shall request concurrence from the department at least 30-days prior to conducting a prescribed burn of the native prairie grasses established on the final cover of the Phase IV Landfill. The following information shall be included with this request for concurrence.

    a. The time and date when the prescribed burn will be conducted.

    b. The name, qualifications, and contact information of the individuals/company who will conduct the prescribed burn.

    c. A plan to prevent the activities associated with the prescribed burn from damaging infrastructure onsite, such as the landfill's leachate cleanouts and leachate headwells.

    d. A discussion on how the geomembrane component of the final cover system will not be damaged by the heat from the prescribed burn, specifically with regards to areas where geomembrane is shall such as at the anchor trench.

    e. A copy of any applicable state or local permits required for a prescribed burn at the facility.

13. Condition 1 of the department's January 29, 2010 construction documentation approval for Cell 1 cap construction, which required DPC to inspect the Cell 1 cap after every storm event, is hereby rescinded. Refer to findings of fact 7.g. for additional information pertaining to this condition.

Unless specifically noted, the conditions of this approval do not supersede or replace any previous conditions of approval for this facility.

This approval is based on the information available to the department as of the date of approval. If additional information, project changes or other circumstances indicate a possible need to modify this approval, the department may ask you to provide further information relating to this activity. Likewise, the department accepts proposals to modify approvals, as provided for in state statutes and administrative codes.

NOTICE OF APPEAL RIGHTS

If you believe you have a right to challenge this decision made by the department, you should know that Wisconsin statutes and administrative codes establish time periods and requirements for reviewing Department decisions.

To seek judicial review of the department's decision, sections 227.52 and 227.53, Wis. Stats., establish criteria for filing a petition for judicial review. You have 30 days after the decision is mailed or otherwise served by the department to file your petition with the appropriate circuit court and serve the petition on the department. The petition shall name the Department of Natural Resources as the respondent.

Dated: May 5, 2025

DEPARTMENT OF NATURAL RESOURCES
For the Secretary

Melanie Burns
Waste and Materials Management Program Supervisor
Southeast Region

Anthony Peterson
Waste Management Engineer
Southeast Region

Matthew Bachman
Hydrogeologist
West Central Region

Attachment # 1 for DPC Phase IV Alma Offsite Ash Disposal Facility -
CCR Initial Permitting Plan of Operation Modification
License # 4126
Environmental Monitoring Tables

Table 1 - Detection Groundwater Monitoring

Monitoring Pt.	DNR ID#	WUWN	Sampling & Reporting[1] Frequency	Parameter Codes	Parameters
CCR wells					
W-100R	040	JQ894	Sample	04189	Elevation, Groundwater (feet above mean sea level)
W-100AR	042	JQ893	Semiannually	00010	Field Temperature (^{0}C)
W-101	023	LO920	March, September	00094	Field Conductivity @ 25^{0}C (umho/cm)
W-102R	044	JQ892		00400	Field pH (standard units)
W-105	029	LO926		00410	Alkalinity, total (mg/L as $CaCO_3$)
W-106	030	LO927		00900	Hardness, total (mg/L as $CaCO_3$)
W-107	031	LO928		00916	Calcium, total (mg/L)
				00940	Chloride, total (mg/L)
				00945	Sulfate, total (mg/L)
				00951	Fluoride, total (mg/L)
				01022	Boron, total (mg/L)
				01147	Selenium, total (ug/L)
				70300	Total Dissolved Solids (mg/L)
Non-CCR wells					
W-42	017	LO914	Sample	04189	Elevation, Groundwater (feet above mean sea level)
P-42A	018	LO915	Semiannually	00010	Field Temperature (^{0}C)
P-42B	019	LO916	March, September	00094	Field Conductivity @ 25^{0}C (umho/cm)
W-101A	024	LO921		00400	Field pH (standard units)
W-102AR	046	JQ891		00946	Sulfate, dissolved (mg/L)
W-104	027	LO924		01020	Boron, dissolved (mg/L)
W-104A	028	LO925		01145	Selenium, dissolved (ug/L)
				22413	Total Hardness, dissolved (mg/L as $CaCO_3$)
				39036	Alkalinity, dissolved (mg/L)

Notes

1. Unless specifically stated, reporting is typically within 60 days after the end of the specified monitoring period, per s. NR 507.26(3), Wis. Adm. Code. CCR wells may require a notification within 60 days of completing sampling and analysis per s. NR 507.15(3)(k), Wis. Adm. Code.

2. The color, odor and turbidity shall be recorded for all samples in accordance with ss. NR 507.17(1)(b) and 507.26(1), but do not need to be reported into GEMS.

3. Field Blank (DNR ID #997) data are also required to be submitted electronically, per s. NR 507.26(3), Wis. Adm. Code.

4. Groundwater samples collected at CCR wells must be unfiltered.

Attachment # 1 for DPC Phase IV Alma Offsite Ash Disposal Facility -
CCR Initial Permitting Plan of Operation Modification
License # 4126
Environmental Monitoring Tables

Table 2 - Water Supply Well Monitoring

Monitoring Pt.	DNR ID#	WUWN	Sampling & Reporting[1] Frequency	Parameter Codes	Parameters
Water Supply Wells					
PW-2	033	II202	Sample	00010	Field Temperature (^{0}C)
			Semiannually	00094	Field Conductivity @ 25^{0}C (umho/cm)
			March, September	00400	Field pH (standard units)
				00946	Sulfate, dissolved (mg/L)
				01020	Boron, dissolved (mg/L)
				01145	Selenium, dissolved (ug/L)
				22413	Total Hardness, dissolved (mg/L as $CaCO_3$)
				39036	Alkalinity, dissolved (mg/L)

Notes

1. Unless specifically stated, reporting is typically within 60 days after the end of the specified monitoring period, per s. NR 507.26(3), Wis. Adm. Code.

2. The color, odor and turbidity shall be recorded for all samples in accordance with ss. NR 507.17(1)(b) and 507.26(1), but do not need to be reported into GEMS.

Attachment # 1 for DPC Phase IV Alma Offsite Ash Disposal Facility -
CCR Initial Permitting Plan of Operation Modification
License # 4126
Environmental Monitoring Tables

Table 3 - Leachate Monitoring

Monitoring Pt.	DNR ID#	Sampling & Reporting[1] Frequency	Parameter Codes	Parameters
Leachate Tank				
Leachate Tank	401	Sample Monthly	00032	Leachate Volume Pumped (1000s of gallons)
		Sample Semiannually March, September	00094	Field Conductivity @ 25°C (umho/cm)
			00150	Total Suspended Solids (mg/L)
			00310	BOD (5 day @ 20°C (mg/L)
			00400	Field pH (standard units)
			00410	Alkalinity, total (mg/L as $CaCO_3$)
			00900	Hardness, total (mg/L as $CaCO_3$)
			00940	Chloride, total (mg/L)
			00945	Sulfate, total (mg/L)
			00951	Fluoride, total (mg/L)
			01012	Beryllium, total (ug/L)
			01022	Boron, total (mg/L)
			01027	Cadmium, total (ug/L)
			01037	Cobalt, total (ug/L)
			01051	Lead, total (ug/L)
			01055	Manganese, total (ug/L)
			01059	Thallium, total (ug/L)
			01062	Molybdenum, total (ug/L)
			01097	Antimony, total (ug/L)
			01132	Lithium, total (ug/L)
			01147	Selenium, total (ug/L)
			11503	Radium 226+228, total in water (pCi/L)
			71900	Mercury, total (ug/L)
			74010	Iron, total (mg/L)
		Sample Annually September		SVOCs (ug/L) Using EPA Solid Waste Method 8270 (NR 507, appendix IV)
Leachate Head Wells				
LH-1	601	Sample Monthly Report semi-annually	00031	Leachate Depth (feet)
LH-2	604		99423	Leachate Elevation (feet above mean sea level)
LH-3	607			
LH-4	610			
LH-5	613			
LH-6	616			
LH-7	619			
LH-8	622			

Notes

1. Unless specifically stated, reporting is typically within 60 days after the end of the specified monitoring period, per s. NR 507.26(3), Wis. Adm. Code.

2. The color, odor and turbidity shall be recorded for all samples in accordance with ss. NR 507.17(1)(b) and 507.26(1), but do not need to be reported into GEMS.

3. Leachate samples may not be filtered.

Attachment # 1 for DPC Phase IV Alma Offsite Ash Disposal Facility -
CCR Initial Permitting Plan of Operation Modification
License # 4126
Environmental Monitoring Tables

Table 4 - Surface Water Monitoring

Monitoring Pt.	DNR ID#	Sampling & Reporting[1] Frequency	Parameter Codes	Parameters
Surface Water Monitoring Points				
SG-1 SG-2	851 852	Sample Semiannually March, September	99520	Elevation, Surface Water (Feet Above Mean Sea Level)
Outfall 001 Outfall 002	871 872	Sample Semiannually March, September if water is present	00003 00010 00094 00400 00410 00900 00945 01022 01147	Comment, Sample Turbidity Field Temperature (^{0}C) Field Conductivity @ 25^{0}C (umho/cm) Field pH (standard units) Alkalinity, total (mg/L as $CaCO_3$) Hardness, total (mg/L as $CaCO_3$) Sulfate, total (mg/L) Boron, total (mg/L) Selenium, total (ug/L)

Notes

1. Unless specifically stated, reporting is typically within 60 days after the end of the specified monitoring period, per s. NR 507.26(3), Wis. Adm. Code.

Attachment #2 for DPC Alma Off-Site Disposal Facility Phase IV Landfill - CCR Initial Permitting Plan of Operation Approval Modification

License # 4126

PAL and ACL Tables

Table 1 - CCR Well Preventive Action Limits (PALs)

Wells	DNR ID#	WUWN	Alkalinity, Total (mg/L) GEMS ID#: 00410	Calcium, Total (mg/L) GEMS ID#: 00916	Hardness, Total (mg/L) GEMS ID#: 00900	Specific Conductance (umhos/cm) GEMS ID#: 00094	Total Dissolved Solids (mg/L) GEMS ID#: 70300	Lithium, Total (ug/L) GEMS ID#: 01132	Cobalt, Total (ug/L) GEMS ID#: 01037	pH (Lower Limit) Field (SU) GEMS ID#: 00400	pH (Upper Limit) Field (SU) GEMS ID#: 00400
W-100R	040	JQ894	400	110	430	790	580	2.1	6	6.2	8.2
W-100AR	042	JQ893	410	110	440	810	580	2.4	6	6.2	8.2
W-101	023	LO920	400	93	430	750	540	2.3	6	6.4	8.4
W-102R	044	JQ892	380	87	400	720	510	1.6	6	6.4	8.4
W-105	029	LO926	390	90	420	730	520	1.8	6	6.3	8.3
W-106	030	LO927	400	94	440	760	540	1.8	6	6.4	8.4
W-107	031	LO928	410	97	480	810	570	2	6	6.3	8.3

Attachment #2 for DPC Alma Off-Site Disposal Facility Phase IV Landfill - CCR Initial Permitting Plan of Operation Approval Modification License # 4126

PAL and ACL Tables

Table 2 - CCR Well Alternative Concentration Limits (ACLs)

Wells	DNR ID#	WUWN	Nitrite + Nitrate (as N), Total (mg/L) GEMS ID#: 00630
W-100R	040	JQ894	2.4
W-100AR	042	JQ893	2.3
W-101	023	LO920	3.6
W-105	029	LO926	2.4
W-106	030	LO927	4.6
W-107	031	LO928	6.6

Attachment #2 for DPC Alma Off-Site Disposal Facility Phase IV Landfill - CCR Initial Permitting Plan of Operation License # 4126

PAL and ACL Tables

Table 3 - Non-CCR Well Preventive Action Limits (PALs)

Wells	DNR ID#	WUWN	Alkalinity, Dissolved (mg/L) GEMS ID#: 39036	Total Hardness, Dissolved (mg/L) GEMS ID#: 22413	Specific Conductance @ 25 C (umhos/cm) GEMS ID#: 00094
W-42	017	LO914	390	410	680
P-42A	018	LO915	390	410	680
P-42B	019	LO916	390	410	660
W-101A	024	LO921	380	390	660
W-102AR	046	JQ891	370	390	700
W-104	027	LO924	380	390	660
W-104A	028	LO925	370	400	660

Notes

1. The PALs for non-CCR wells were established in the May 15, 2001 Plan of Operation Approval or September 22, 2006 Conditional Plan of Operation Modification Approval.

Attachment #2 for DPC Alma Off-Site Disposal Facility
Phase IV Landfill - CCR Initial Permitting
Plan of Operation Approval Modification
License # 4126

PAL and ACL Tables

Table 4 - Non-CCR Well
Alternative Concentration Limits (ACLs)

Wells	DNR ID#	WUWN	Selenium, Dissolved (ug/L) GEMS ID#: 01145
W-42	017	LO914	23
P-42A	018	LO915	25
P-42B	019	LO916	24
W-101A	024	LO921	20
W-102AR	046	JQ891	-
W-104	027	LO924	24
W-104A	028	LO925	26

Notes.

1. The ACLs for non-CCR wells were established in the May 15, 2001 Plan of Operation Approval.

2. Empty cells (-) indicate ACLs that were not established in the May 15, 2001 Plan of Operation Approval.

Attachment # 3 for DPC Alma Off-Site, Phase IV Landfill
CCR Initial Permitting Plan of Operation Approval Modification
License #4126

Owner Financial Responsibility Cost Estimates

Table 1 – Closure Cost Estimate

Major Cost Item Unit 2023	Unit	2023 Unit Cost	Quantity	Average Cost per Year
Mobilization	LS	$ 110,000.00	1	$ 110,000.00
Final Cover System				
Barrier Layer (24" Fine Grained Soil)	CY	$ 10.20	40,100	$ 410,000.00
GCL	SF	$ 0.75	540,200	$ 406,000.00
40-mil LLDPE Geomembrane	SF	$ 0.61	540,200	$ 330,000.00
Granular Drainage Layer (12")	SF	$ 9.45	60,100	$ 568,000.00
Vegetative Layer (18")	SF	$ 3.21	90,100	$ 290,000.00
Topsoil (6")	CY	$ 6.89	10,100	$ 70,000.00
Seed, Fertilize, and Mulch	Acre	$ 2,290.00	12	$ 29,000.00
Surface Water Control System	LS	$ 150,000.00	1	$ 150,000.00
Silt Fence	LF	$ 3.50	1,000	$ 4,000.00
Engineering Fees				
Construction Plans	LS	$ 34,000.00	1	$ 34,000.00
Construction Observation	Week	$ 10,000.00	25	$ 250,000.00
Documentation Report	LS	$ 34,000.00	1	$ 34,000.00
			Subtotal	$ 2,685,000.00
			10% Contingency	$ 268,500.00
			Total Cost	$ 2,953,500.00

Notes:

1) The total worst-case closure cost applies to 12.4 acres of closure.
2) Average costs per year were rounded up to the nearest $1,000.
3) Cost estimates are in 2023 US dollars.

Table 2 – Long-Term Care Cost Estimate

Major Cost Item Unit 2023	Unit	2023 Unit Cost	Quantity	Average Cost per Year
Land Surface Care and Site Maintenance				
Reseed/Erosion Damage	Acre	$ 830.00	32	$ 27,000.00
Lawn Mowing	LS	$ 5,310.00	1	$ 6,000.00
Snow Plowing	LS	$ 3,000.00	1	$ 3,000.00
Road Maintenance	LS	$ 2,000.00	1	$ 2,000.00
Strom Water Control Structures Maintenance	LS	$ 8,300.00	1	$ 9,000.00
Repair Cover from Settlement	Acre	$ 340.00	32	$ 11,000.00
Sedimentation Basin Cleaning	LS	$ 830.00	1	$ 1,000.00
Groundwater Monitoring Maintenance				
Inspections and Maintenance/Purge/Resurvey, Pumps	LS	$ 4,000.00	0.25	$ 1,000.00
Well Replacement/Abandonment	LS	$ 10,000.00	0.375	$ 4,000.00
Leachate Collection System				
Leachate Collection Line Cleaning	LS	$ 3,320.00	1	$ 4,000.00
Leachate Collection Line Televising	LS	$ 1,200.00	0.2	$ 300.00
Operation and Maintenance	LS	$ 4,980.00	1	$ 5,000.00
Leachate Disposal	Gallon	$ 0.04	876000	$ 37,000.00
Environmental Monitoring				
Groundwater Monitoring (15 wells)	LS	$ 9,000.00	1	$ 9,000.00
Leachate Monitoring (1 tank)	LS	$ 1,000.00	1	$ 1,000.00
Surface Water Monitoring (2 locations)	LS	$ 1,000.00	1	$ 1,000.00
Data Preparation/Submittal	LS	$ 3,000.00	1	$ 3,000.00
Inspection and Reporting				
Annual Inspections	LS	$ 3,400.00	1	$ 4,000.00
Annual Report	LS	$ 5,000.00	1	$ 5,000.00
			Subtotal	$ 133,300.00
			10% Contingency	$ 13,400.00
			Total Annual Long-Term Care Cost	$ 146,700.00
			Total 40-Year Long-Term Care Cost	$ 5,868,000.00

Notes:

1) Average costs per year were rounded up to the nearest $1,000 (except for leachate collection line televising).
2) The 10% contingency is rounded up to the nearest hundred dollars.
3) Cost estimates are in 2023 US dollars.