



PO Box 50004
Minneapolis, MN 55405

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michaelklema@landspread.com
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Monday August 25, 2025

Theresa Stiner
Iowa Department of Natural Resources
Land Quality Bureau
6200 Park Ave, Suite 200
Des Moines, IA 50321

**RE: Danisco US, Inc.: Land Application Permit Renewal Application
Permit # 57-SDP-50-22P-LAN**

Dear Ms. Stiner,

Attached is a land application permit renewal application for Danisco US, Inc. in Cedar Rapids, IA: Permit # 57-SDP-50-22P. There is one additional note to make on this permit renewal application:

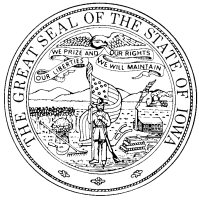
1. The closure cost estimate has been increased from a total of \$93,073 to a total of \$95,812.50. The financial assurance is in the process of being increased as well and will be forwarded to you as soon as that has been completed. The current financial assurance document has been included in the application.

If you have any questions, please do not hesitate to call.

Sincerely,

Michael Klema
Environmental Land Management, LLC

cc: IDNR FO #1, 909 W Main, Suite 4, Manchester, IA 52057
IDNR FO #6, 1023 W Madison St, Washington, IA 52353



Iowa Department of Natural Resources
Solid Waste Land Application
Permit Application Form



Application for a solid waste land application must be accompanied by the plans, specifications and additional information required by the applicable solid waste rules under Iowa Administrative Code 567 Chapter 121.

Send completed applications with attached information to:

Iowa Department of Natural Resources
Land Quality Bureau
Solid Waste Section
502 E 9th St
Des Moines, IA 50319-0034

For questions concerning this application please contact the Department at (515) 725-8315.

☐ New Permit

☒ Permit Renewal # 57 -SDP- 50 - 22P -LAN

Section 1. Contact Information

Solid Waste Generator Name: Danisco US, Inc. Phone: (319) 363-9601
Address: 1000 41st Ave Dr SW City, State, Zip: Cedar Rapids, IA 52404
Email: - Fax: -

Physical Location of Generating Facility:

Address: 1000 41st Ave Dr SW City, State, Zip: Cedar Rapids, IA 52404

Responsible Official Name: Joe Kilburg Phone: (319) 533-4489
Address: 1000 41st Ave Dr SW City, State, Zip: Cedar Rapids, IA 52404
Email: joe.kilburg@iff.com Fax: -

Certified Professional Agronomist Name: Jim Nesselth, Extended Ag Services Phone: 507-662-5005
Address: 507 Milwaukee St. City, State, Zip: Lakefield, MN 56150
Email: info@extendedag.com License #: 17118 Fax: 507-662-5105

Consultant Name (if any): Michael Klema, Environmental Land Management Phone: 203-506-1814
Address: PO Box 50004 City, State, Zip: Minneapolis, MN 55405
Email: michaelklema@landspread.com Fax: -

Section 2. Waste Type

Does the material to be land applied contain free liquids¹? ☐ Yes ☒ No

If the material is a sludge, is it generated by a:

- ☐ Commercial or industrial wastewater treatment facility
☐ Water supply treatment facility
☐ Air pollution control facility
☒ Other; Please elaborate: Filter aid consisting of diatomaceous earth, perlite, activated carbon and biomass

Expected weight (tons) of solid waste to be land applied per year by the facility: 5,000 wet tons

¹ The presence of free liquids is determined by the paint filter test. The paint filter test is done by placing a 100-milliliter or 100-gram representative sample of the material into a standard mesh number 60 (fine mesh size) conical paint filter for five minutes. Any free liquid visible below the funnel indicates sample failure.

Section 3. Permit Application Checklist

The following items must be attached. If the permit is being renewed and there is no change from what was submitted with previous applications, the Doc Id# may be listed in lieu of resubmitting the document. Analytical results and a cost closure estimate (for facilities storing material at the application sites) must be submitted with each renewal. Checking the appropriate boxes below certifies that the documents submitted in conjunction with this application form are complete and in compliance with the applicable chapters of Iowa Administrative Code. If an application is found by the DNR to be incomplete, it may be denied and returned to the applicant.

Required Documents		Attached or Doc Id#	
Executive Summary (<i>permit renewals only</i>) <ul style="list-style-type: none"> Summary of each special provision of the current permit to determine if it is to remain the same, be revised or be removed. Summary of each permit amendment, if any, that occurred during the current permit cycle to determine if it shall be included with the renewed permit, be revised or be removed. Provide documentation and certification as required for new permit amendment requests and new variance requests from Iowa Administrative Code, if any. 			NA
Description of the material including source, quantity and method of treatment prior to land application	567 IAC 121.7(1)"a"(11)	<input checked="" type="checkbox"/>	
Description of the land application process, including method of application, when application will take place, and equipment to be used	567 IAC 121.7(1)"a"(13) 567 IAC 121.7(1)"a"(14)	<input checked="" type="checkbox"/>	
Analytical results	567 IAC 121.7(1)"a"(12)	<input checked="" type="checkbox"/>	NA
Evidence waste application will not cause adverse effects	567 IAC 121.7(1)"a"(15) through 567 IAC 121.7(1)"a"(17)	<input checked="" type="checkbox"/>	
Site Operation Plan	567 IAC 121.7(1)"a"(18)	<input checked="" type="checkbox"/>	
Emergency Response and Remedial Action Plan	IAC 567 102.14	<input checked="" type="checkbox"/>	
Site Closure Plan	IAC 567 102.12(10)	<input checked="" type="checkbox"/>	
Proof of financial assurance and closure cost estimate (only if material will be stored at application sites)	567 IAC 121.8	<input checked="" type="checkbox"/>	NA
Table of land application sites. Include the following for each application site: <ul style="list-style-type: none"> Site ID County and township Legal description of site Total acres in site Acres eligible for land application Name of landowner 	567 IAC 121.7(1)"a"(4)	<input checked="" type="checkbox"/>	
For each <u>new</u> application site, include the following:			
Aerial photograph with the application area(s) designated	567 IAC 121.7(1)"a"(1)	<input checked="" type="checkbox"/>	NA
Soil map	567 IAC 121.7(1)"a"(2)	<input checked="" type="checkbox"/>	NA
Water table levels	567 IAC 121.7(1)"a"(10)	<input checked="" type="checkbox"/>	NA
Location of wells within one mile of the site	567 IAC 121.7(1)"a"(5)	<input checked="" type="checkbox"/>	NA
Evidence of Natural Resources Conservation Service (NRCS) review and soil loss information	567 IAC 121.7(1)"a"(3) 567 IAC 121.7(1)"a"(6) through 567 IAC 121.7(1)"a"(8)	<input checked="" type="checkbox"/>	NA
Site soil testing	567 IAC 121.7(1)"a"(9)	<input checked="" type="checkbox"/>	NA
Proof of ownership or legal entitlement to use the site (agreement with the land owner)	567 IAC 121.7(1)"b"(6)	<input checked="" type="checkbox"/>	NA

Section 4. Applicant Certification

Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I further certify that the construction and operation of the above described facility will be in accordance with the plans, specifications, reports and related communications accepted by the Iowa Department of Natural Resources and on file in its office; and in accordance with conditions imposed in the permit issued by the Iowa Department of Natural Resources.

Signature: Joe Kilburg Date: 8/22/2025
Printed Name: Joe Kilburg Title: Plant Manager

Danisco US, Inc., Cedar Rapids, IA
Iowa DNR Land Application New Permit Application
Application Form Checklist

▪ **Executive Summary**

• **Summary of Modifications to Facility**

- There have not been any major modifications to the facility. The volume of material will change month to month due to customer demand and product mix. The engineering team regularly trials different process conditions to improve yield and reduce processing time, but the fundamental processing steps and raw materials have not significantly changed. The types of enzymes produced have not significantly changed.

• **Summary of Special Provisions**

1. The permit holder is authorized to land apply up to 5.2 dry tons (approximately 14 wet tons) per acre, per year of Danisco industrial by-product generated at the Danisco US Facility in Cedar Rapids, Iowa as indicated in the permit application dated October 25 (Doc# 104419).
2. The permit holder shall operate the site(s) in accordance with IAC 567 Chapter 121 and the approved Operations Plan dated October 25 (Do # 104419) as submitted by Environmental Land Management. No provision in this permit or the approved site operation plan submitted constitutes a waiver or variance from 567 IAC 121 or the Code of Iowa. Any conflict between a provision of the permit or reference document and Iowa rules or statutes shall be resolved in favor of the duly adopted rules and statutes.
3. The permit holder is authorized to land apply only on DNR approved sites as shown on the attached Table 1 and the attached maps. Application will not take place on slopes greater than 9%. Application on drainage pathways where erosion would be likely to occur rainfall and snowmelt is prohibited.
4. At no time may land application occur on sites which will not normally sustain a crop or other soil-stabilizing vegetation or on land for which there is no intent to plant, cultivate and harvest a crop either the same year during the growing season or the year following land application activities. Danisco, nor the application contractor, nor the land owners are authorized to land apply wastes, or allow the application of wastes on land which will lie fallow the following growing season.
5. Land Application sites shall have the pH of the surface horizon or plow layer adjusted to and maintained at or above 5.5

6. Danisco industrial by-product must not be applied within 200 feet of occupied residences without written approval from the landowner of that residence. A 50 foot buffer must be maintained from a stream, drainage channel, waterway, tile-line surface inlet, or shoreline of a pond.
7. The permit holder is required to have a Certified Professional Agronomist perform an annual inspection of all sites utilized in the particular year to ensure soil properties and constituents being applied are suitable and will meet agronomic rates for the crop that will be produced during that current year. The Agronomist will review soil test results to ensure that the application of the waste will not cause buildup of nutrients in the soil. The results of this inspection shall be submitted to the DNR Main Office by April 1st of each year.
8. The permit holder is required to maintain records of the total amounts land applied at each application site. These records must be made available to the DNR upon request. An annual report summarizing the land application at each site shall be submitted to the DNR Main Office using Form 542-3276LAN. The report will be for July through June and due October 1st.
9. If applicable, Manure Management Plans must be followed to ensure compliance with Iowa manure regulations. Nutrients from Danisco industrial by-product must be added into the rate calculations of the current Manure Management Plan.
10. Danisco industrial by-product is hereby authorized to be stored at approved land application sites as indicated on the maps attached to this permit. Storage of Danisco industrial by-product is subject to the following conditions:
 - i. The maximum amount of stored Danisco industrial by-product at a land application site must not exceed the amount that is to be land applied at that particular land application site.
 - ii. Danisco industrial by-product shall not exceed 270 days at any one time. Danisco US, Inc is required to maintain records, including dates and daily volume of material hauled and deposited at the land application site on those dates to show compliance of the above requirement. Volume removed and spreading dates must also be tracked. Records must be available for inspection by the DNR upon request.
 - iii. Odor from the stockpiling of Danisco industrial by-product must be controlled at all times. When odor is evident, measures must be taken to remediate odor from the

stockpiles. If odor of the stockpile is not remediated, the stockpile must be removed from the property and disposed of at a permitted Iowa sanitary disposal project (SDP) or hauled out of state on a schedule determined by the DNR.

11. The closure cost estimates dated September 6, 2022 in the amount of \$93,073 as prepared by Thomas K. Madden, P.E., of SEH and initial proof of establishment of a financial assurance mechanism in the amount of \$75,000 are hereby approved. The permit holder shall maintain surety bond #K41609734 dated September (Doc#10419) established at Federal Insurance Company, Whitehouse Station NJ, as its financial assurance mechanism and agrees to comply with the requirement of all subrules within IAC 567 Chapter 121.8 (455B, 455D) "Financial assurance requirements for land application of wastes."

- **Summary of Permit Amendments and New Variance Requests**

- Permit Amendment #1, March 19, 2024
 - In accordance with the March 11, 2024 request submitted by Environmental Land Management, the permit holder is authorized to add the following site(s). All information submitted, including plat and soil maps (Doc # 109495), is hereby incorporated as provisions of the permit. See attached Table 1 for complete information.
 - Prasil Sailor Road
 - Prasil Yellow Pine
- No new variance requests

- **Description of Material**

The Danisco US, Inc. manufacturing facility in Cedar Rapids, Iowa produces enzymes and fermentation products for fabric and household care, ethanol production, animal feed, sugar conversion, and antimicrobial products. The facility utilizes a filter aid composed of diatomaceous earth (DE), perlite, and activated carbon as a processing aid in the production of liquid enzyme products. The used filter aid is a by-product of this processing step and is dewatered, conveyed in an auger system, and collected in 20-yard roll-off style containers. The used filter aid contains the prementioned DE, perlite, activated carbon, and fermentation biomass and water. The used filter aid is transported to local fields for land application.

- **Description of the Disposal Process and Equipment**

Transportation of materials from the facility to the field will be roll-off trucks and boxes. Typical hauling will consist of approximately 10 loads per week out of the plant at roughly 10-12 tons of material per load. Material will be hauled to field sites for temporary stockpiling until enough material has been delivered to spread the desired acreage or seasonal limitations allow (cropping season, winter, etc.). After stockpiling,

the material will be loaded by front end loader into a spreader and spread the field site using a pull-type rear discharge spreader or pull-type side discharge spreader at appropriate agronomic rates as recommended by Extended Ag Services.

- **Analytical Results**

Attached are the most recent analytical results from Midwest Labs and the most recent agronomist's recommendation of that analysis performed by Extended Ag Services.

- **Evidence That Waste Application Will Not Cause Adverse Affects**

The filter aid byproduct does not contain any toxic materials. Proper land application processes will be adhered to in order to minimize any chance of adverse affects. To reduce the chance of runoff, land application will be suspended when precipitation is imminent or during other adverse weather conditions. All specific setbacks will be adhered to during stockpiling and spreading operations. Recommended application rates will be followed and adjusted according to the agronomic limits of the particular sites. Cumulative metal loading rates have been analyzed in the agronomist recommendations. Therefore, no adverse affects are anticipated from the land application program.

- **Site Operation Plan**

See attached Operation Plan.

- **Emergency Response and Remedial Action Plan (ERRAP)**

See attached ERRAP.

- **Site Closure Plan**

During the life of a specific site, setbacks and application rates guidelines will be followed. By applying the material at appropriate agronomic rates the crops will utilize the nutrients within a year or shortly thereafter as it breaks down and no over fertilization will occur. However, upon the closing of a site, the Department will be notified in writing. We will also monitor that site if the integrity of the site is deemed compromised and take any corrective measures to return that site normalcy which will be detailed in annual reports.

- **Proof of Financial Assurance and Closure Cost Estimate**

Thomas Madden, P.E., of SEH in Mason City, IA has completed the most recent closure cost estimate, which is attached to this application. Danisco will continue to provide a surety bond for the estimated amounts.

- **Table of Land Application Sites (Table 1)**

See attached Table 1 for site specific information.

- **Site Maps and Aerial Photographs**

See all submitted site maps for all sites listed on Table 1.

- **Soil Maps**

See all submitted soil maps for permitted sites on Table 1.

- **Site Water Table Levels**

See all submitted water table information for permitted sites on Table 1.

- **Well Specifications**

An Iowa DNR well search has been completed for all sites on Table 1. See all previously submitted well search maps for permitted sites on Table 1.

- **Evidence of NRCS Review & Soil Loss Information**

Jim Nesselth, Certified Professional Agronomist, along with Andrew Nesselth, Environmental Consultant, of Extended Ag Services, have reviewed the site information and have summarized their findings in a review submitted for all sites attached to this permit application. See all submitted soil loss information for permitted sites on Table 1.

- **Site(s) Soil Testing**

Initial site soil sampling will be completed for all sites on Table 1 in which application will take place for the upcoming cropping season. Soil test results will be further examined and discussed for sites applied to in the annual agronomist report.

- **Proof of Ownership/Local Zoning Requirements**

See Table 1 identifying farmers and land operators. See previously attached consent forms for all previously approved sites.



Midwest Laboratories
13611 B Street
Omaha, NE 68144
P 402-334-7770
F 402-334-9121
www.midwestlabs.com

ENVIRONMENTAL LAND MGMT LLC - 16041
PO BOX 50004
MINNEAPOLIS, MN 55405

Project: IFF Cedar Rapids

Project Manager: LEE HANSEN

Reported:
2025-07-07 08:40

Sample ID: Industrial Sludge
Laboratory ID: 1615984-01
Sampled Date/Time: 2025-06-19 08:00

Analyte	Result	Qualifier	Reporting		Units	Method	Prepared	Analyzed	Analyst/ Container
			MDL	Limit					
Total Metals									
Arsenic	<			1.9	mg/kg dry	EPA 6020	2025-06-23	2025-06-24	jd9 / (C)
Barium	11.4			0.9	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Cadmium	<			0.4	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Calcium	421.2			45.1	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Chromium	<			1.8	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Copper	14.6			1.8	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Iron	568.5			18.1	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Lead	<			9.0	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Magnesium	362.8			18.1	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Manganese	73.9			1.8	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Mercury	<			0.10	mg/kg dry	EPA 7471	2025-06-23	2025-06-26	mab7 / (C)
Molybdenum	2.0			1.8	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Nickel	<			1.8	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Phosphate (P2O5)	12290			41.4	mg/kg dry	Calculation	2025-06-23	2025-06-24	erw9
Phosphorus	5365			18.1	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Potash (K2O)	1411			43.3	mg/kg dry	Calculation	2025-06-23	2025-06-24	erw9
Potassium	1176			36.1	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Selenium	<			1.9	mg/kg dry	EPA 6020	2025-06-23	2025-06-24	jd9 / (C)
Silver	<			1.8	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Sodium	1242			36.1	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Sulfur	2733			27.1	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)
Zinc	33.7			3.6	mg/kg dry	EPA 6010D	2025-06-23	2025-06-24	erw9 / (C)

Environmental Chemistry

Work Order: 1615984

The result(s) issued on this report only reflect the analysis of the sample(s) submitted. For applicable test parameters, Midwest Laboratories is in compliance with NELAC requirements. Our reports and letters are for the exclusive and confidential use of our clients and may not be reproduced in whole or in part, nor may any reference be made to the work, the results, or the company in any advertising, news release, or other public announcements without obtaining our prior written authorization.



Midwest Laboratories
13611 B Street
Omaha, NE 68144
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www.midwestlabs.com

ENVIRONMENTAL LAND MGMT LLC - 16041
PO BOX 50004
MINNEAPOLIS, MN 55405

Project: IFF Cedar Rapids

Project Manager: LEE HANSEN

Reported:
2025-07-07 08:40

Sample ID: Industrial Sludge
Laboratory ID: 1615984-01
Sampled Date/Time: 2025-06-19 08:00

Analyte	Result	Qualifier	MDL	Reporting		Method	Prepared	Analyzed	Analyst/ Container
				Limit	Units				
Environmental Chemistry									
Ammonia-N	449			50.6	mg/kg dry	SM 4500-NH3 C-2021	2025-06-23	2025-06-23	pes0 / (A)
Chloride	6070			203	mg/kg dry	SM 4500-Cl- E-2021	2025-06-23	2025-06-23	kjp4 / (B)
Hexane Extractable Material (HEM)	6600			1620	mg/kg dry	EPA 9071B	2025-06-26	2025-06-26	atk5 / (B)
Total Kjeldahl Nitrogen	31300			506	mg/kg dry	PAI-DK 01	2025-06-23	2025-06-23	pes0 / (A)
Nitrate/Nitrite Nitrogen	10.9			1.0	mg/kg dry	EPA 353.2	2025-06-23	2025-06-23	NAM7 / (D)
Organic Nitrogen	30900			506	mg/kg dry	Calculation	2025-06-23	2025-06-23	pes0
pH @ 20.5°C	5.28				S.U.	EPA 9045D	2025-06-23	2025-06-23	ppj2 / (B)
Percent Solids	49.36			0.01	%	SM 2540 G-2015	2025-06-23	2025-06-24	kpl8 / (B)
Percent Volatile Solids	58.87			0.01	%	SM 2540 G-2015	2025-06-23	2025-06-24	kpl8 / (B)
Total Carbon	43.42			0.20	% dry	ASTM D5373-08(mod)	2025-06-26	2025-06-26	jmr5 / (A)



507 Milwaukee St.
Lakefield, MN 56150-1177
507.662.5005 phone
507.662.5105 fax
info@extendedag.com

August 14, 2025

Environmental Land Management
1602 11th Drive NE
Austin, MN 55912

RE: Review of Industrial Byproduct for Land Application: Filter Aid

Michael,

We have completed your request for a review of eight (8) samples of industrial by-product generated by the Danisco USA Facility in Cedar Rapids, IA. The extent of our review focused on the lab analysis from the facility during the time period of April 11, 2022 to July 7, 2025. The analysis of the material was conducted by Midwest Laboratories, Inc.

Danisco Cedar Rapids is an enzyme production facility, and they use diatomaceous earth to filter their production materials. The by-product is referred to as 'filter aid'. It is handled as a solid, cake-type material and land applied at various times of the year.

The average analysis from the facility indicates that the product will be handled as a solid material with approximately 59.4% moisture. The product is relatively nutrient dense. The average of the tests showed the pressed sludge had a high Total Nitrogen content, measuring 54.8 lbs. per Dry Ton. The measured Phosphorus was 10.6 lbs. per Dry Ton and the Potassium measured was 2.0 lbs. per Dry Ton. The Zinc content was measured 0.05 lbs. per Ton. The Sulfur content, another important nutrient of agronomic significance, measured 4.3 lbs. per Ton. Given the nature of the material, the high density of nutrients is expected.

Nutrient availability depends on application methods and environmental conditions (soil pH, temperature and precipitation). Estimates for nutrient availability are historically derived from research conducted by the Land Grant college system. Little research exists on the typical nutrient availability of biosolids. However, due to the similarity in how nutrients become available through mineralization in the soil, using crop available nutrient estimates for dry manure is acceptable. The University of Nebraska and Iowa State University are used as references for estimating plant available nutrients for the Danisco by-product.

We would expect 70-80% of the Phosphorus to immediately available for plant use and 70-90% of the Potassium to be available in the first year. The estimated Zinc and Sulfur availability in the first year would be approximately 60%.

Determining nitrogen availability is complex. The sooner the material is incorporated into the soil the profile, the higher the expected plant available nitrogen (other nutrient availability will remain the same). Ammonium Nitrogen (NH_4^+) in the byproduct will be protected from volatilization by assimilating it with negatively charged clay particles in the soil profile. However, the Organic Nitrogen availability is subject to environmental conditions that influence its conversion to Ammonium Nitrogen or Nitrate (NO_3^-), namely soil temperature, soil moisture, aeration, drainage management and microbial activity. Iowa State University and University of Nebraska-Lincoln estimate that approximately 25-50% of total Nitrogen in solid manure will be plant-available in year one. Due to the ratio of Ammonium Nitrogen and Organic Nitrogen in the material, a conservative estimate of total Nitrogen availability – if incorporated within 24 hours – would be approximately 35% in the first year.

Sodium applications should be limited to less than 170 lbs. per year to avoid toxicity issues (3.3 lbs. per Dry Ton was measured). Sodium loading must be managed to preclude a reduction in infiltration (surface crusting), dispersion and migration of clay particles into soil pores, swelling of expandable clays, and a reduced ability of a cover crop to take up water. Sodium is considered de-stabilizing with respect to soil structure. The sodium adsorption ratio (SAR) is the ratio between sodium, and calcium plus magnesium in the effluent. For fine to medium textured soils, a SAR above 8.5 in the effluent can negatively affect the soil structure and/or infiltration rates of the soil. In these instances, calcium and magnesium (gypsum) should be added to reduce the SAR. An evaluation of this material indicates an adjusted SAR value of 8.9. In addition, the electrical conductivity of the soils should be monitored to maintain less than 4 mmhoms/cm. If land applications follow recommendations by appropriately managing frequency and rate of application, no sodium issues are likely.

The high density of Nitrogen – particularly Organic Nitrogen (the most stable form in biosolids) – is the limiting factor in determining an application rate. Our recommendation for this material is to land apply it at a rate of approximately 5.69 Dry Ton per acre with immediate incorporation. This translates to approximately 14.0 wet tons per acre. A first-year plant available analysis of 112 – 110 – 13 lbs. /acre (N-P2O5-K2O) can be expected based on this rate. An estimated 35% of the total organic nitrogen and 100% of the ammonia nitrogen applied will be available to plants in the first year. If the material is applied at the same rate without incorporating within 48 hours, we estimate plant availability at of 110 – 110 – 13 lbs. /acre (35% of organic and 50% ammonia nitrogen). We estimate that 25% of the total organic nitrogen will be available to plants in the 2nd year following application and 15% would be available in the 3rd year following any application. The remaining amount would be lost to volatilization or leaching. If applications are made in successive years, proper crediting of residual nitrogen should be employed based on crop removal, application rate, timing and total pounds applied.

This recommended application rate will supply a significant portion of the Nitrogen of non-legume crop needs (depending on actual Nitrogen mineralization rates). Therefore, nitrogen from other sources should be managed accordingly. If the land application site has soil tests exceeding the very high range

for phosphorus, applications at the recommended rate should be limited to once every two years. Fields with Phosphorus soil tests below the very high range can be applied at an annual basis if crop yields warrant it. Based on the analysis, the land application rate will not exceed the cumulative loading rates outlined in the Region VIII EPA's Biosolids Management Handbook for determining compliance with 40 CFR Part 503.

The material has a favorable nutrient density and as such, it can be utilized on a wide range of soils but should be targeted on soils testing in the very low to Optimum range for Phosphorus when planning annual land applications to achieve the greatest agronomic benefit. Supplemental phosphorus applications should follow Iowa State University Guidelines in PM 1688. Adequate soil conservation measures should be utilized to prevent phosphorus movement offsite in addition to following all required setbacks and best management practices for application. Regular soil testing should be conducted following applications to monitor changes in soil characteristics.

This review is independent of any restrictions pertinent to specific field conditions (slope, erosion potential, etc.) and should be considered as such. Specific conditions in each land application site may require lower application rates to protect the public health, safety and welfare. Please refer to any land application site reviews for further recommended land application restrictions.

This product has the potential to provide significant agronomic benefit to landowners. Please feel free to contact us with any questions or concerns. Thank you for the opportunity to provide our input on your Project.

Sincerely,



Jim Nesseth

Certified Agronomist/CCA
License#: 17118



Andrew Nesseth

Environmental Consultant

Danisco US, Inc. – Cedar Rapids, IA

Land Application Site Operation Plan

August 14, 2025

Land Application Permit Application Checklist IDNR 567, Chapter 121.7(1)

a. Operation Plan Outline

- 1) See submitted aerial maps and well search maps.
- 2) See submitted soil maps.
- 3) See submitted reviews of sites.
- 4) See submitted master site list table for site acres.
- 5) See submitted well search reports.
- 6) See submitted soil map tables and reviews.
- 7) See submitted soil map tables and reviews.
- 8) See submitted soil map tables and reviews.
- 9) Site soil sampling will be completed at each specific site used for land application in a season. Soil data will be analyzed and discussed in the annual agronomist reports.
- 10) See submitted soil map tables.
- 11) See attached Permit Application form, and Permit Application Checklist: Description of Material.
- 12) See attached analytical report from Midwest Labs.
- 13) See attached Permit Application form, Permit Application Checklist: Description of Disposal Process and Equipment, and byproduct review from Extended Ag Services.
- 14) See attached Permit Application form, Permit Application Checklist: Description of Disposal Process and Equipment, and byproduct review from Extended Ag Services.
- 15) See byproduct review by Extended Ag Services. Annual agronomist reports will discuss site soil information.
- 16) See byproduct review by Extended Ag Services. See analytics from Midwest Labs.
- 17) See submitted aerial and soil maps along with land application site reviews.
- 18) Operational requirements of 121.7(1) “c” & “d”.**
 - c. Operating requirements for land application sites
 - 1) The general public and livestock will not be given access to the land application sites for two months after application, unless the Department grants variance to this rule.

- 2) Land application sites will be soil tested and those results will be analyzed and discussed by the agronomist in the annual agronomist report.
 - 3) Land application will cease prior to a rain event or other runoff possibility.
 - 4) Land application sites will not be used when frozen or snow covered conditions prohibit unless precautions are taken to avoid runoff.
 - 5) If the department requires, a groundwater-monitoring program could be implemented.
 - 6) In the event of significant leachate, the department will be notified and a plan for controlling that leachate will be submitted.
 - 7) Sludge sampling will be performed annually at a minimum for all constituents required by the permit application. Additional sampling will be done as necessary.
 - 8) All site application records will be maintained and submitted to the department on annual report forms and will be discussed further on annual agronomist reports.
 - 9) If sites are no longer in use, the department will be notified to remove them from the Table 1.
 - 10) If the department requires, closed sites will be monitored.
- d. Additional operating requirements for land application. If any of the following additional operating items are required by the department, all efforts will be made to comply with those requests:
- 1) Telephone on site.
 - 2) Sanitary facilities on site.
 - 3) Fence to control access to site.
 - 4) Permit copy on site.
 - 5) Signage containing name, permit number, closed to public and the owner's name and phone number.

**Emergency Response and Remedial Action Plan (ERRAP) for
Environmental Land Management & Danisco US, Inc.
Cedar, Johnson, Jones, Linn Counties**

A. Facility Information

Permitted Agency: Danisco US, Inc.

DNR Permit Number: 57-SDP-50-22

Facility Description: Environmental Land Management (ELM) land applies diatomaceous earth and perlite filter aid byproduct generated by Danisco US, Inc. in Cedar Rapids, IA. Land application activity will occur on agricultural land in Cedar, Johnson, Jones and Linn Counties, Iowa.

Responsible Officials and Contact Information:

Joe Kilburg, Plant Manager, Danisco: (319) 533-4489

Sarah Fersdahl, Environmental Engineer, Danisco: (319) 329-1331

Michael Klema, Director, ELM: (203) 506-1814

Project Location: Various land application sites in Cedar, Johnson, Jones and Linn Counties.

Site and Environs Map: See submitted maps for all sites on permit Table 1.

B. Regulatory Requirements: Danisco is seeking a permit to operate a land application project at different spreading sites in Iowa in accordance with Chapter 455B of the code. This ERRAP has been developed by ELM and is being submitted with other permit renewal application documentation.

C. Emergency Conditions – Response and Remedial Action

- 1. Failure of Utilities:** During the land application process, there is no reliance upon natural gas, liquid propane or electricity. All trucks and spreaders operate on gas or diesel engines.
- 2. Weather Related Events:** In the case of violent weather or a natural disaster event (tornado, flood, intense rainfall), delivery of the material to land application sites would cease for the duration of the event and no land application would take place during such an event. If stockpiled material were moved by a tornado, all efforts would be made to recoup and re-pile the moved material. In the case of windstorms, material may be delivered to a land application site since the material would be heavy enough to resist blowing conditions, however, spreading activity would be limited, if any. If stockpiled material were eroded and moved by intense rainstorms, machinery would be used to push up and re-pile that material after the rainfall event was over. If stockpiled material were struck by lightning, there

could be a chance of a stockpile catching fire, in which case water truck, loader and/or bulldozer could be dispatched to the stockpile for mitigation. Stockpiling in flood zones would be minimal and flood affects should also be minimal. However, if a flood affected a stockpile, any material that eroded away from the stockpile would be pushed up and re-piled after the flood recedes. In all weather conditions and events we can discontinue spreading or delivery until conditions improve or the event is over.

3. Fire and Explosions: The by-product does not have any history of catching on fire or exploding and they do not contain anything flammable or toxic. All trucks are equipped with fire extinguishers and radios/cell phones to summon assistance. If there was a disabled vehicle on the road, the truck can be towed back to the facility where the by-product can be transferred to a working vehicle. There are no fuels or utilities associated with this material. The material is loaded and unloaded outside and all working areas are outside, there are no indoor facilities associated. The by-product is cool when it leaves the production site and there are no gases associated with the by-products. There are no buildings associated with the transportation or stockpiling of this material so there are no evacuation procedures.

4. Regulated Waste Spills and Releases: The by-product materials are diatomaceous earth and perlite filter aid byproduct. Unless there was a heavy rain event, there is typically little leachate present at a stockpile site. If there is leachate it is typically contained within 50 feet of the stockpile and cleaned up when loading the spreaders. There are no gases associated with these by-products. It is transported daily in dump trucks and deposited on approved land for storage until weather or seasonal conditions permit land application. There is no litter or airborne particulates associated with this material. There are no drainage systems associated with the land application sites. If an off-site release occurred during transport, equipment and personnel are in place for timely clean up and transfer. The IDNR spill response team as well as Danisco personnel will be notified in a timely manner.

5. Hazardous Material Spills and Releases: The by-products are not hazardous.

6. Mass Movement of Land and Waste: In the event of an earthquake, delivery would be ceased until conditions normalized. An earthquake should not affect an existing stockpile. Slope failure should not affect a stockpile of material due to the limitation of a stockpile being on a slope of 9% or less. If waste were to shift or subside due to an earthquake, slope failure, sinkhole, etc., machinery (excavators, loaders, or bulldozer) can be employed to recapture any material shifted.

Emergency and Release Notifications and Reporting:

Sarah Fersdahl, Danisco: (319) 329-1331

Michael Klema, ELM: (203) 506-1814

Local Fire Department: 911

Local Police Department: 911
Theresa Stiner, Iowa DNR: (515) 725-8315
Iowa DNR Field Office #1: (563) 927-2640
Iowa DNR Field Office #6: (319) 653-2135
Iowa DNR Spill Response: t. (515) 725-8694
Iowa DNR Spill Response notification due within 6 hours of spill/release
Iowa DNR Spill Report due within 30 days of spill/release

- 8. Emergency Waste Management Procedures:** All transportation machinery should be equipped with radios and/or operator cell phones and can immediately make contact for assistance in an emergency. There are multiple delivery sites and typically multiple route options in place for matters of weather and other circumstances. Deliveries to land application sites can be ceased at any time if necessary or wastes can be diverted to secondary options.
- 9. Primary Emergency Equipment Inventory:** Heavy machinery and water truck could be made available if needed. Other water sources and hydrants will be available in certain locations.
- 10. Emergency Aid:** Truck and machinery operators are equipped with communication devices if emergency aid is needed. In a medical emergency local emergency services would be contacted through 911.
- 11. ERRAP Training Requirements:** ERRAP training will be provided to personnel involved in the spreading activities by ELM management and attendees will be recorded. Training will include proper handling of the byproduct from the plant to the eventual land application site as well as emergency operations.
- 12. Reference Tables, Figures and Maps:** Table 1 maps show the locations of the sites. Primary contacts are listed in the “Emergency and Release Notifications and Reporting”.



Building a Better World
for All of Us®

August 14, 2025

RE: Environmental Land Management
Engineer's Opinion of Probable Cost For
Industrial Sludge By-Product Disposal Land
Application Project – Dansico
Cedar Rapids, IA
Linn, Johnson, Jones and Cedar County, Iowa

Theresa Stiner
IDNR Land Quality Bureau
6200 Park Ave
Suite 200
Des Moines, Iowa 50321

Dear Ms. Stiner:

The following engineer's estimate is to be used for the basis of financial assurance as required in IAC 567-121.8. The costs detailed below are based on a third party land application of stored solid waste due to the permit holder's failure to properly land apply wastes in accordance with 567-121.7. We have taken into consideration location, materials and the volume of storage available based on the information provided by Environmental Land Management.

The Dansico Manufacturing Facility in Cedar Rapids, Iowa, produces enzymes and fermentation products for fabric care, ethanol production, animal feed, sugar conversion and antimicrobial products. The facility utilizes a filter aid consisting of diatomaceous earth and activated carbon. The used filter aid is a by-product of the manufacturing process and is dewatered and land applied for final disposal. The used filter aid contains diatomaceous earth, perlite, activated carbon and fermentation biomass. It is our understanding that the material stockpile volumes associated with the crop growing season (9 months) is what needs to be considered for developing closure cost estimates. With this in mind, the estimated stockpile volume for the material accumulation is approximately 3,750 tons. Based on the Facility's annual production of approximately 5,000 tons of material, this stockpile represents approximately 75% of the annual amount produced.

The disposal area consists of 13 distinct sites in Linn, Johnson, Jones and Cedar Counties.

Based on the production volume and the reporting and auditing requirements, it seems unlikely that vast amounts of material could accumulate without intervention. It is reasonable to assume that it is possible for a full growing seasons worth of material stockpile to accumulate. The following opinion of cost is based on the information above, and the notes on the following page:

Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc., 10 N Washington, Suite 110, Mason City, IA 50401
SEH is 100% employee-owned | sehinc.com | 641.424.6344 | 888.908.8166 fax

Engineer's Estimate of Probable Cost

<u>Item</u>	<u>Quantity</u>	<u>Cost</u>	<u>Total</u>
Mobilization ¹	1 LS	\$25,000	\$25,000
Material Application ²	3,750 TON	\$14.75	\$55,312.50
Management ³	1 LS	\$15,500	<u>\$15,500</u>
TOTAL			\$95,812.50

¹ Mobilization includes all costs associated with transportation of equipment, material and workers to multiple sites. Costs also include obtaining land, easements and soil tests necessary for application.

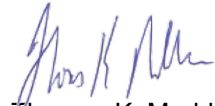
² Application includes loading and spreading costs are based on information submitted by Environmental Land Management.

³ Management includes all reporting requirements.

Please call if you have any questions.


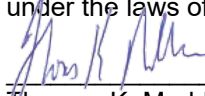
Sincerely,

SHORT ELLIOTT HENDRICKSON INC.



Thomas K. Madden, PE
Project Engineer

c: Mike Klema, Environmental Land Management, 1602 – 11th Drive NE, Austin, MN 55512

	I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Iowa.	
		8/14/2025
	Thomas K. Madden, PE	(Date)
	My License renewal date is: December 31, 2026 License Number: P15573 Responsible for the following sections: All sections	

LAND APPLICATION OF WASTES SURETY BOND

Surety's Bond No.: **K41609734**

Principal: Danisco US, Inc.

Type of Organization: Corporation

State of Incorporation: Iowa

Surety(ies): Federal Insurance Company
202B Halls Mill Road
Whitehouse Station NJ 08889-3454

CON 12-1-1
Doc # 104388

Solid waste permit number, name, address, and current closure cost estimate, or portions thereof, for which each solid waste management site guaranteed by this bond: _____
See attached Closure Cost Estimate Letter

Total penal sum of bond: \$93,075.00

KNOW ALL PERSONS BY THESE PRESENTS, That we, the Principal and Surety(ies) hereto are firmly bound to the State of Iowa, as Obligee, in the above penal sum for the payment of which we bind ourselves, our respective heirs, executors, administrators, successors, and assigns, jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

WHEREAS, said Principal is required, under Iowa Administrative Code 567 Chapter 121 (hereinafter Chapter 121) to have a permit in order to own or operate solid waste management sites under the business identified above; and

WHEREAS, said Principal has applied to said Obligee to operate a sanitary disposal project located within the State of Iowa and is required to provide financial assurance for closure care, as a condition of the permit and applicable laws, rules and regulations;

NOW, THEREFORE, THE CONDITON OF THIS OBLIGATION IS SUCH that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund an account for the benefit of the Obligee in the amount(s) identified above for each facility, if said Principal fails to properly close the site within 30 days of permit suspension, termination, revocation or expiration. The Principal shall fully indemnify and hold harmless the Obligee against all loss to it caused by said Principal's breach of any ordinance, rule or regulation relating thereto, then this obligation shall be null and void; otherwise it shall remain in full force and effect.

Or, if the Principal shall provide alternate financial assurance, as specified in Chapter 121, as applicable, and submit documentation of such alternate assurance, within 60 days of receipt of a written notice of cancellation is received by both the Principal and the Obligee from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

PROVIDED, THE LIABILITY OF THE SURETY shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by the Obligee that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into an account as directed by the Obligee.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notification by certified mail, return receipt requested, to the Principal and the Obligee, provided, however, that cancellation shall not occur during the 90 days beginning on the date of receipt of the notice of cancellation by both the Principal and the Obligee, as evidenced by the return receipts; and provided further, that nothing herein shall affect any rights or liabilities which shall have accrued under this bond prior to the date of such termination.

The Principal may terminate this bond only if the Principal substitutes alternate financial assurance prior to cancellation, or if said Principal is no longer required to demonstrate financial responsibility in accordance with Chapter 121.


IN WITNESS THEREOF, the Principal and Surety(ies) have executed this financial instrument under their respective hands and seals, this 29th day of September, 20 22.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies).

Danisco US, Inc.

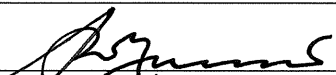
Principal

[Corporate Seal]

Signature: 

Name: Jennifer A. Johnson

Title: Director

Signature: 

Name: Simon W. Herriott

Title: President

Federal Insurance Company

Corporate Surety(ies)

[Corporate Seal]

Signature: _____

Name: April D. Perez

Title: Attorney-In-Fact

Signature: _____

Name: Annette Audinot

Title: Witness As to Surety

State of Incorporation: Indiana



Power of Attorney

Federal Insurance Company | Vigilant Insurance Company | Pacific Indemnity Company

Westchester Fire Insurance Company | ACE American Insurance Company

Know All by These Presents, that **FEDERAL INSURANCE COMPANY**, an Indiana corporation, **VIGILANT INSURANCE COMPANY**, a New York corporation, **PACIFIC INDEMNITY COMPANY**, a Wisconsin corporation, **WESTCHESTER FIRE INSURANCE COMPANY** and **ACE AMERICAN INSURANCE COMPANY** corporations of the Commonwealth of Pennsylvania, do each hereby constitute and appoint

April D. Perez

each as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, bonds and undertakings and other writings obligatory in the nature thereof (other than bail bonds) given or executed in the course of business, and any instruments amending or altering the same, and consents to the modification or alteration of any instrument referred to in said bonds or obligations.

In Witness Whereof, said **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, **PACIFIC INDEMNITY COMPANY**, **WESTCHESTER FIRE INSURANCE COMPANY** and **ACE AMERICAN INSURANCE COMPANY** have each executed and attested these presents and affixed their corporate seals on this 10th day of **March, 2020**.

Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

Stephen M. Haney

Stephen M. Haney, Vice President



STATE OF NEW JERSEY

County of Hunterdon

SS.

On this 10th day of **March, 2020** before me, a Notary Public of New Jersey, personally came Dawn M. Chloros and Stephen M. Haney, to me known to be Assistant Secretary and Vice President, respectively, of **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, **PACIFIC INDEMNITY COMPANY**, **WESTCHESTER FIRE INSURANCE COMPANY** and **ACE AMERICAN INSURANCE COMPANY**, the companies which executed the foregoing Power of Attorney, and the said Dawn M. Chloros and Stephen M. Haney, being by me duly sworn, severally and each for herself and himself did depose and say that they are Assistant Secretary and Vice President, respectively, of **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, **PACIFIC INDEMNITY COMPANY**, **WESTCHESTER FIRE INSURANCE COMPANY** and **ACE AMERICAN INSURANCE COMPANY** and know the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of said Companies; and that their signatures as such officers were duly affixed and subscribed by like authority.

Notarial Seal



KATHERINE J. ADELAAR
NOTARY PUBLIC OF NEW JERSEY
No. 2316685
Commission Expires July 16, 2024

Katherine J. Adelaar

Notary Public

CERTIFICATION

Resolutions adopted by the Boards of Directors of **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY** on August 30, 2016; **WESTCHESTER FIRE INSURANCE COMPANY** on December 11, 2006; and **ACE AMERICAN INSURANCE COMPANY** on March 20, 2009:

"RESOLVED, that the following authorizations relate to the execution, for and on behalf of the Company, of bonds, undertakings, recognizances, contracts and other written commitments of the Company entered into in the ordinary course of business (each a "Written Commitment"):

- (1) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise.
- (2) Each duly appointed attorney-in-fact of the Company is hereby authorized to execute any Written Commitment for and on behalf of the Company, under the seal of the Company or otherwise, to the extent that such action is authorized by the grant of powers provided for in such person's written appointment as such attorney-in-fact.
- (3) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to appoint in writing any person the attorney-in-fact of the Company with full power and authority to execute, for and on behalf of the Company, under the seal of the Company or otherwise, such Written Commitments of the Company as may be specified in such written appointment, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (4) Each of the Chairman, the President and the Vice Presidents of the Company is hereby authorized, for and on behalf of the Company, to delegate in writing to any other officer of the Company the authority to execute, for and on behalf of the Company, under the Company's seal or otherwise, such Written Commitments of the Company as are specified in such written delegation, which specification may be by general type or class of Written Commitments or by specification of one or more particular Written Commitments.
- (5) The signature of any officer or other person executing any Written Commitment or appointment or delegation pursuant to this Resolution, and the seal of the Company, may be affixed by facsimile on such Written Commitment or written appointment or delegation.

FURTHER RESOLVED, that the foregoing Resolution shall not be deemed to be an exclusive statement of the powers and authority of officers, employees and other persons to act for and on behalf of the Company, and such Resolution shall not limit or otherwise affect the exercise of any such power or authority otherwise validly granted or vested."

I, Dawn M. Chloros, Assistant Secretary of **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, **PACIFIC INDEMNITY COMPANY**, **WESTCHESTER FIRE INSURANCE COMPANY** and **ACE AMERICAN INSURANCE COMPANY** (the "Companies") do hereby certify that

- (i) the foregoing Resolutions adopted by the Board of Directors of the Companies are true, correct and in full force and effect,
- (ii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Whitehouse Station, NJ, this September 29, 2022



Dawn M. Chloros

Dawn M. Chloros, Assistant Secretary

IN THE EVENT YOU WISH TO VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT:
Telephone (908) 903-3493 Fax (908) 903-3656 e-mail: surety@chubb.com

FEDERAL INSURANCE COMPANY

STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

December 31, 2021

(in thousands)

ASSETS		LIABILITIES AND SURPLUS TO POLICYHOLDERS	
Cash and Short Term Investments	\$ (567,306)	Outstanding Losses and Loss Expenses	\$ 8,701,383
United States Government, State and Municipal Bonds	4,271,534	Reinsurance Payable on Losses and Expenses	1,484,196
Other Bonds	5,994,673	Unearned Premiums	2,400,711
Stocks	675,588	Ceded Reinsurance Premiums Payable	366,332
Other Invested Assets	<u>1,647,712</u>	Other Liabilities	<u>498,472</u>
TOTAL INVESTMENTS	<u>12,022,201</u>	TOTAL LIABILITIES	<u>13,451,094</u>
Investments in Affiliates:		Capital Stock	20,880
Great Northern Ins. Co.	414,638	Paid-In Surplus	2,711,474
Vigilant Ins. Co.	354,696	Unassigned Funds	<u>1,903,522</u>
Chubb Indemnity Ins. Co.	183,242	SURPLUS TO POLICYHOLDERS	<u>4,635,976</u>
Chubb National Ins. Co.	190,801		
Other Affiliates	116,373		
Premiums Receivable	1,726,653		
Other Assets	<u>3,078,466</u>		
TOTAL ADMITTED ASSETS	<u>\$ 18,087,070</u>	TOTAL LIABILITIES AND SURPLUS	<u>\$ 18,087,070</u>

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners, At December 31, 2021, investments with a carrying value of \$509,085,162 were deposited with government authorities as required by law.

STATE OF PENNSYLVANIA

COUNTY OF PHILADELPHIA

John Taylor, being duly sworn, says that he is Senior Vice President of Federal Insurance Company and that to the best of his knowledge and belief the foregoing is a true and correct statement of the said Company's financial condition as of the 31 st day of December, 2021.

Sworn before me this March 16, 2022

Jaime L. Yates
Senior Vice President
Jaime L. Yates
Notary Public

September 19, 2023
My commission expires

Commonwealth of Pennsylvania - Notary Seal
Jaime L. Yates, Notary Public
Philadelphia County
My commission expires September 19, 2023
Commission number 1357070
Member, Pennsylvania Association of Notaries

Danisco US Cedar Rapids Master Site List Table 1

Site Name	County	Township	Township, Range	Section	Location Description	Total Acres	Suitable Acres	Farmer
Prasil Alger	Cedar	Pioneer	T82N, R4W	30, 31	W 1/2 of NE 1/4 Sec 31; S 1/2 of SE 1/4 Sec 30	114	78	John Prasil
Prasil Brown	Johnson	Cedar	T81N, R5W	3	SE 1/4 of NW 1/4 and NE 1/4 of SW 1/4 and NW 1/4 of SE 1/4 and SW 1/4 of NE 1/4	52	36	John Prasil
Prasil Coles	Cedar	Pioneer	T82N, R4W	30	SW 1/4 of SW 1/4	33	22	John Prasil
Prasil Home	Linn	Franklin	T82N, R5W	26, 35	S 1/2 of SE 1/4 Sec 26; W 1/2 of NE 1/4 Sec 35	147	135	John Prasil
Prasil Huck	Linn	Linn	T83N, R5W	3	E 1/2 of SW 1/4 and W 1/2 of SE 1/4	142	123	John Prasil
Prasil Mooney	Jones	Greenfield	T83N, R4W	8, 17	SW 1/4 and W 1/2 of SE 1/4 Sec 8; NE 1/4 of NW 1/4 Sec 17	219	173	John Prasil
Prasil Pavilka	Linn, Johnson	Franklin, Cedar	T82N, R5W; T81N, R5W	33	E 1/2 of SE 1/4 Sec 33 (Franklin/Linn); W 1/2 of SW 1/4 and SE 1/4 of SW 1/4 Sec 34 (Franklin/Linn); NW 1/4 of NW 1/4 Sec 3 (Cedar/Johnson); NE 1/4 of NE 1/4 Sec 4 (Cedar/Johnson)	204	194	John Prasil
Prasil River	Linn	Franklin	T82N, R5W	33	NE 1/4 and S 1/2 of NW 1/4	113	102	John Prasil
Prasil Strothers	Linn	Linn	T83N, R5W	10	SE 1/4	107	105	John Prasil
Prasil Sutliff	Johnson	Cedar	T81N, R5W	12	NW 1/4	115	80	John Prasil
Prasil Sutliff East	Johnson	Cedar	T81N, R5W	1, 12	SE 1/4 of SE 1/4 Sec 1; E 1/2 of NE 1/4 Sec 12	103	72	John Prasil
Prasil Sailor Road	Linn	Franklin	T82N, R5W	35	S 1/2 of SW 1/4	66	59	John Prasil
Prasil Yellow Pine	Johnson	Cedar	T81N, R5W	1	W 1/2 of SE 1/4, E 1/2 of SW 1/4	90	59	John Prasil
		Farmer		Phone	Address			
		John Prasil		(319) 310-2967	422 W South Street, Lisbon, IA 52253			