September 5, 2025

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Sent via email

Re: Comments on Draft Permit IN0000027, Cargill Texturizing Solutions

Dear Mr. Meguschar,

Environmental Law and Policy Center, Abrams Environmental Law Clinic, BP & Whiting Watch, Conservation Law Center, Environmental Advocacy Center, Gary Advocates for Responsible Development, Hoosier Environmental Council, Indiana Conservation Voters, Just Transition Northwest Indiana, National Parks Conservation Association, and Northern Lake County Environmental Partnership (Environmental Commenters), along with the City of Chicago (collectively, Commenters) submit the following comments regarding the draft modified National Pollutant Discharge Elimination System (NPDES) wastewater permit IN0000027 for Cargill Texturizing Solutions. These comments describe the revisions needed in the modified permit so that it complies with state and federal law. Please reach out with any questions or if a meeting on these issues would be helpful.

Environmental Commenters are non-profit organizations that work to promote a healthier environment for all. Federal and state environmental regulations exist to ensure that businesses operate in a manner that does little harm to human health and the environment. Full and fair application of those regulations ensures that businesses stand on equal footing and do not receive a competitive advantage by polluting the environment.

The City of Chicago is a municipal corporation and a home rule unit under the laws of the State of Illinois concerned directly with the health, safety, and welfare of its residents. Chicagoans rely on Lake Michigan for drinking water, as an economic engine, and as a recreational asset. Strong regulatory requirements help ensure clean drinking water for Chicago residents, protection of aquatic life, and preservation of our most precious natural resource.

I. Introduction

Thank you for the opportunity to comment on the August 2025 Cargill Texturizing Solutions (Cargill) Draft Permit (Draft Permit) IN0000027 and for the hard work involved in writing a

NPDES permit. We offer these comments to better protect Indiana and federal waters and ensure compliance with the federal Clean Water Act (CWA) and Indiana water quality laws and regulations.

IDEM must significantly revise the Draft Permit before finalizing it. As described below, the Draft Permit is missing critical terms and conditions needed to comply with federal and state law and to protect Lake Michigan and the Wolf Lake Channel to Wolf Lake.

IDEM must revise the Draft Permit in the following ways:

- Require Cargill to meet Lake Michigan mercury water quality standards
- Evaluate Cargill's discharge for potential pollutants of concern
- Add TBELs, WQBELS, monitoring, and/or WET testing for unregulated pollutants from Outfall 001
- Require updated technology analysis for Outfall 001 for chlorides, sulfates, and ammonia
- Require Cargill to provide updated facility information

A. Cargill Texturizing Solutions, Receiving Waters, and Draft Permit

Cargill Texturizing Solutions is a corn processing plant located within a half mile of the Lake Michigan shoreline at 1100 Indianapolis Boulevard in Hammond, Indiana. *See* Figure A.1. Cargill manufactures starch products, corn syrups, maltodextrins, gluten meal, gluten feed, corn germ, and other corn-based products and alternative carbohydrate products. Cargill has an outfall directly into Lake Michigan just offshore of the Hammond Lakefront Park and Bird Sanctuary and west of the Hammond Marina which holds annual fishing derbies.[1] *See* Figures A.1-A.4. The Lake Michigan shoreline has numerous swimming beaches and community parks—including at Hammond, Whiting, and Gary—while further east is the Indiana Dunes National Park.[2] Wolf Lake, at 804 acres, hosts an impressive wetlands ecosystem and provides habitat for migratory birds and waterfowl, fish, and a variety of mammals. Lake Michigan is designated as an Outstanding State Resource Water. 327 IAC 2-1.5-19(b).

NPDES permit IN0000027 allows Cargill to discharge wastewater into Wolf Lake and Lake Michigan. Wolf Lake is on Indiana's 2024 303(d) list for phosphorus and PCBs in fish tissue while Lake Michigan is on the list for mercury, PCBs in fish tissue, and *E. coli*.[3] U.S. EPA approved a TMDL for *E. coli* for Lake Michigan on September 1, 2004.

[1] https://www.southshorecva.com/listing/hammond-marina/334/.
[2] Indiana Dunes National Park is the 4th most biodiverse and 13th most visited National Park in the U.S.
[3] Fact Sheet for NPDES Permit (No. IN0000027), Cargill Texturizing Solutions ("Fact Sheet") at 16.

IDEM issued the current permit with an effective date of April 1, 2018, and it expired on March 31, 2023. Cargill timely submitted its 2022 Application,[4] allowing for administrative extension of the NPDES permit.

B. Legal Background: Clean Water Act and Indiana Water Quality Law

The CWA prohibits the discharge of a pollutant from a point source into "waters of the United States" unless authorized by and in compliance with a NPDES permit. 33 U.S.C. §§ 1311(a), 1342(b), 1342. Indiana law similarly prohibits discharges of pollutants that lack state authorization. Ind. Code § 13-30-2-1.

Section 402 of the CWA, 33 U.S.C. § 1342, created the NPDES program, under which EPA may issue NPDES permits for point source discharges to waters of the United States. Section 402(b) of the Act, 33 U.S.C. § 1342(b), authorizes the EPA Administrator to delegate to the states the authority to issue NPDES permits. EPA delegated the state of Indiana, through IDEM, the authority to issue NPDES permits in 1977 and IDEM now implements the federal permitting program.[5] As part of that program, IDEM must comply with federal NPDES permitting regulations as well as IDEM regulations. 40 C.F.R. § 123.25.

II. IDEM Must Not Approve the Streamlined Mercury Variance (SMV)

IDEM has proposed renewing Cargill's streamlined mercury variance (SMV) in the Draft Permit.[6] Commenters oppose the continued renewal of the SMV because the renewal fails to comply with state and federal requirements for Great Lake variances.

Mercury bioaccumulates, meaning that organisms higher in the food chain will have a higher concentration of mercury (specifically methylmercury) in their tissues and blood. Consequently, "[m]ethylmercury levels in predatory fish are typically more than one million times higher than methylmercury levels in water that the fish inhabit."[7] Consumption of organisms that are contaminated with mercury causes serious health risks up the food chain to fish, birds, and humans alike.[8] To protect Lake Michigan aquatic life, the Lake Michigan water quality standard for mercury is a monthly average of 1.3 ng/L and a daily maximum of 3.2 ng/L.[9]

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[4] NPDES Permit (No. IN0000027) 2022 Renewal Application, Cargill Texturizing Solutions (Sept. 26, 2022) ("2022 Application").
[5] EPA – Indiana Memorandum of Agreement, July 22, 1977, available at https://www.epa.gov/sites/default/files/2013-09/documents/in-moa-npdes.pdf.
[6] *See* Draft Permit Public Notice at 1.
[7] Water Science School, United States Geological Survey, Mercury Contamination of Aquatic Environments, November 13, 2018, available at: https://www.usgs.gov/special-topics/water-science-school/science/mercury-contamination-aquatic-environments.
[8] *See e.g.*, US EPA, Health Effects of Exposures to Mercury, last updated on December 5, 2024, available at: https://www.epa.gov/mercury/health-effects-exposures-mercury.; US EPA, Basic Information about Mercury, last updated on December 5, 2024, available at https://www.epa.gov/mercury/basic-information-about-mercury.
[9] Draft Permit at 2.

Unfortunately, due to atmospheric deposition from coal plants and point source discharge from industries like Cargill, Lake Michigan exceeds those water quality standards, impairing both aquatic life and the health of the people and animals that eat Lake Michigan fish. For instance, Indiana recommends that some Lake Michigan fish only be eaten once a month to prevent mercury poisoning.[10] Both Indiana and Wisconsin include Lake Michigan on their section 303(d) lists of impaired waters for mercury, designating it as requiring a Total Maximum Daily Load (TMDL) to achieve compliance with water quality standards,[11] while Illinois already has a mercury TMDL for Lake Michigan.[12]

In order to not worsen the existing aquatic life impairment, IDEM established concentration limits for mercury discharges that match the water quality standard: a monthly average of 1.3 ng/L and a daily maximum of 3.2 ng/L.[13] However, Indiana regulations also create the SMV, which allows a permittee to discharge more mercury than is safe for Lake Michigan aquatic life while the permittee reduces its mercury loading through a "pollution management program plan," or PMPP. 327 IAC 5-3.5. Here, Cargill has requested an adjusted limit of 6.8 ng/L as an annual average for mercury, which is more than 5 times the chronic (average monthly) Lake Michigan water quality standard for mercury.

Cargill's 2006 NPDES permit required Cargill to comply with Great Lakes WQS for Mercury within 5 years.[14] But IDEM then approved an SMV of 12.4 ng/L in a permit modification that became effective on November 1, 2010.[15] IDEM renewed the SMV with a 4.85 ng/L interim limit in Cargill's April 1, 2013 permit,[16] but after Cargill appealed, provided a revised SMV with a 6.8 ng/L limit in a February 1, 2015 modified permit.[17] Cargill's current April 1, 2018 permit includes a renewed SMV at 6.8 ng/L.[18] Cargill applied for another renewal of its SMV at that same level in its September 2022 application.[19] If this SMV is approved, Cargill will essentially have had a mercury variance for nearly 25 years.

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[10] Indiana Department of Health, Fish Consumption Guidelines Map, last accessed August 27, 2025, available at: https://www.in.gov/health/eph/fish-consumption-advisory/.

[11] *See* Indiana Department of Environmental Management, Section 303(d) List of Impaired Waters, last accessed on August 27, 2025, available at: https://www.in.gov/idem/nps/watershed-assessment/water-quality-assessments-and-reporting/section-303d-list-of-impaired-waters/; Wisconsin Department of Natural Resources, Water Condition Lists, last accessed on August 27, 2025, available at: https://dnr.wisconsin.gov/topic/SurfaceWater/ConditionLists.html. *See also* Fact Sheet at 16 ("Lake Michigan (Assessment-Unit INC0163_G1075), HUC (40400010603)) is on the 2024 303(d) list for Mercury, PCBs in fish tissue, and *E. coli*.").

[12] *See* Illinois Environmental Protection Agency, Illinois Lake Michigan Nearshore Watershed Mercury TMDL Report, April 2019, available at: https://epa.illinois.gov/content/dam/soi/en/web/epa/topics/water-quality/watershed-management/tmdls/documents/final-illinois-lake-michigan-nearshore-mercury-tmdl-report-april-2019.pdf;

[13] Draft Permit at 2.

[14] 2006 Permit at 3, 15 (VFC Doc. No. 58396873).

[15] 2010 Permit Modification at 2-3 (VFC Doc. No. 60768442).

[16] 2013 Permit at 2 (VFC Doc. No. 69720644).

[17] 2015 Permit Modification at 2-3, 2015 Fact Sheet at 3-6 (VFC Doc. No. 80050042).

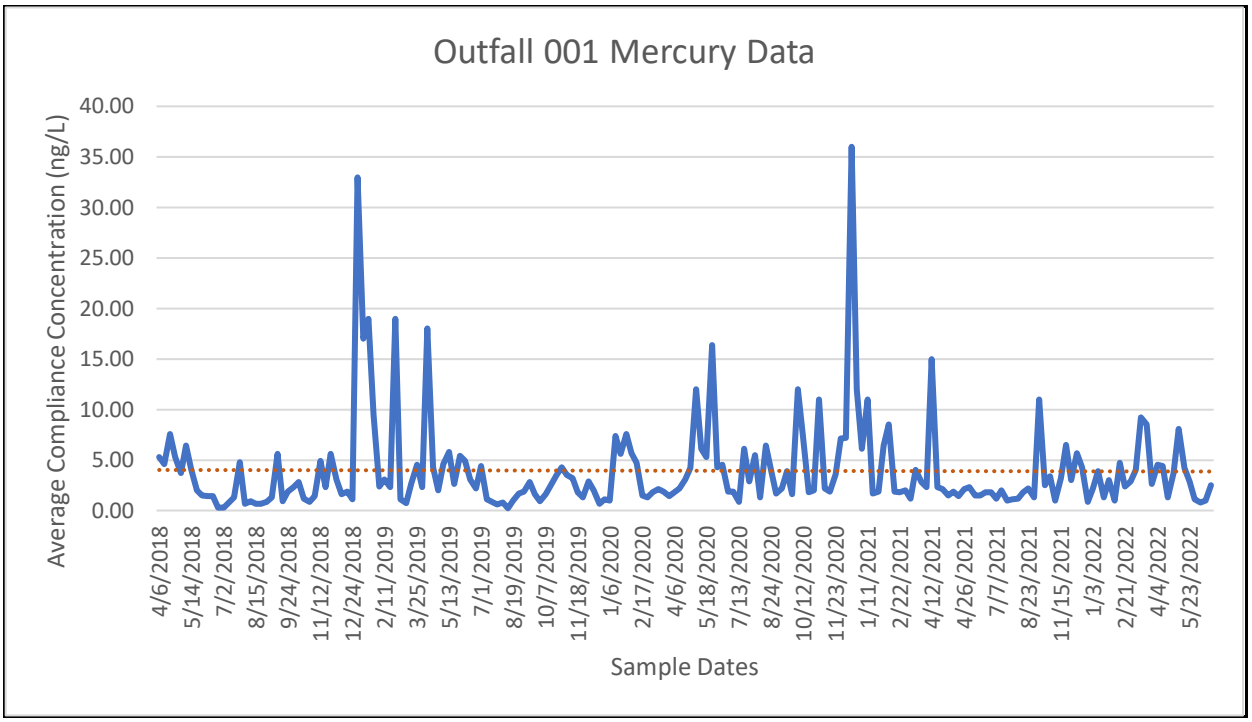
[18] 2018 Permit at 51 (VFC Doc. No. 82627102).

[19] 2022 Application at PDF p. 85.

A. Cargill Has Not Shown the Progress Needed for SMV Renewal

For IDEM to renew a SMV, the applicant must demonstrate "that implementation of the PMPP has achieved progress toward the goal of reducing mercury from its discharge except as provided in subsection (d)." 327 IAC 5-3.5-7(a). Subsection (d) provides that "[a] PMPP must be revised if implementation of the original PMPP does not lead to demonstrable progress in minimizing the discharge of mercury." 327 IAC 5-3.5-7(d). Only "[i]f the applicant can provide information, as part of a revision to a PMPP, that demonstrates there is no known reasonable additional action that will reduce mercury [can] the PMPP may remain as previously approved." *Id.*

Based on the mercury samples during the current permit term (2018-2022), Cargill's current PMPP has not achieved progress toward the goal of reducing mercury. Since the current permit became effective on April 1, 2018, there has been no reduction in mercury discharge concentration—in fact, the flat trendline (dotted line) in the graph of Cargill's mercury discharges from Outfall 001 below shows that there has been no improvement at all.[20]



Cargill's lack of progress is not surprising, given that the current PMPP does not require installation of treatment to meet mercury limits.[21] Instead, the PMPP merely requires Cargill to characterize sources, evaluate alternatives for reduction, and develop awareness of containment

[20] 2022 Application, Cargill Outfall 001 Mercury Data at PDF 126-132.

[21] 2022 Application, Pollution Minimization Program Plan for Mercury at 6. "The focus of the PMPP is pollution prevention and source control and not treatment." *Id.* at n.14. *See also* 2022 Application, Stream-lined Mercury Variance Renewal Request at 2 ("Given the nature of the discharges and the implemented/ongoing PMPP activities, there are no additional known actions that will reduce mercury discharges from Outfall 001.").

control implementation. While Commenters appreciate Cargill's seemingly ongoing efforts to inventory mercury and mercury-containing materials with a potential to reach Outfall 001,[22] Cargill's dismissal of and failure to investigate wastestream treatment options renders the PMPP inadequate.

Cargill claims that "wastestreams are treated to meet ELGs" and therefore "no further activities are proposed for the specific wastestreams."[23] But no ELGs cover mercury discharges. *See* 40 CFR Part 406. Similarly, Cargill's conclusory statements that "there is a recognized lack of available viable end-of-pipe treatment options in the required ng/L range"[24] is unavailing.[25] Per 327 IAC 5-3.5-7(d), the permittee must provide information "that demonstrates there is no known reasonable additional action that will reduce mercury." And yet, Cargill provides no documentation, not even a literature review, to support this claim.[26] Additionally, Cargill fails to explain why its mercury discharges vary so widely from day to day as it reports "as measured" daily average mercury ranges from 0.17 to 21 ng/L and "back-calculated" daily average mercury ranges from 0.22 to 36 ng/L.[27] These discrepancies are so great that if Cargill examined them, it would likely identify at least some steps it could take to control mercury discharges.

Cargill has already had nearly 20 years to take the necessary steps to comply with the mercury limits needed to protect Lake Michigan aquatic life—and the people who eat Lake Michigan fish. Cargill has instead relied upon an ineffective PMPP.[28] Now Cargill is asking for even more time but does not propose taking any additional steps to meet Lake Michigan mercury limits. The SMV renewal does not meet the requirements of 327 IAC 5-3.5-7 because implementation of the PMPP in this permit term has not achieved progress toward the goal of reducing mercury from its

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[22] 2022 Application, Pollution Minimization Program Plan for Mercury, Attachment III.
[23] 2022 Application, Pollution Minimization Program Plan for Mercury at 12.
[24] 2022 Application, Pollution Minimization Program Plan for Mercury at 6.
[25] *See e.g.*, Feng He et al., *Technology Evaluation for Waterborne Removal at the Y-12 National Security Complex*, Oak Ridge National Laboratory (December 2010) (discussing mercury treatment technologies to reduce mercury discharge from exceeding an interim level of 200 ng/L to meet the Tennessee ambient water quality criteria of 51 ng/L), https://www.esd.ornl.gov/romic_afrc/documents/Waterborne_Mercury_Treatment_ORNL_TM-final.pdf; U.S. EPA, TREATMENT TECHNOLOGIES FOR MERCURY IN SOIL, WASTE, AND WATER 11-3 (2007) (using air stripping technology to reduce groundwater mercury concentration from 120-150 ng/L more than 95% "with the residual total mercury reduced to levels below 10 ng/L"), https://19january2017snapshot.epa.gov/sites/production/files/2015-08/documents/treat_tech_mercury_542r07003.pdf.
[26] There appears to be significant research into mercury remediation from similar facilities. *See e.g.*, Adel Beig Babaei et al., *Efficacious removal of mercury metal in food industry sewerage utilizing reduced graphene oxide adsorbent composited with magnetic nanoparticles*, 52 S. AFR J. OF CHEM. ENG'G 97 (2025), https://www.sciencedirect.com/science/article/pii/S1026918525000022; Talia Tene et al., *Removal of mercury(II) from aqueous solution by partially reduced graphene oxide*, NATURE, April 19, 2022, https://www.nature.com/articles/s41598-022-10259-z; Liuwei Wang et al., *Remediation of mercury contaminated soil, water, and air: A review of emerging materials and innovative technologies*, 134 ENV'T INT'L (Jan. 2020), https://www.sciencedirect.com/science/article/pii/S0160412019324754.
[27] 2022 Application, Pollution Minimization Program Plan for Mercury at 6.
[28] "Given the nature of the discharges and the implemented/ongoing PMPP activities, there are no additional known actions that will reduce mercury discharges from Outfall 001. Therefore, Cargill is proposing no substantial revisions in the revised PMPP submitted as part of this Renewal Application, nor a change in the proposed interim limit." 2022 Application Stream-lined Mercury Variance Renewal Request at 2.

discharge and Cargill proposed "no substantial revisions in the revised PMPP as part of this [r]enewal."[29]

B. Cargill's Proposed SMV Does Not Meet Federal Great Lakes Variance Requirements

IDEM and Cargill must also comply with federal Great Lakes variance requirements for renewal of the SMV. 327 IAC 5-3.5-7(a) requires that renewal must be "in accordance with IC 13-14-8-9," and IC 13-14-8-9 requires that applicants for Great Lake variances like the Cargill SMV meet federal Great Lakes variance requirements:

> A variance from a water quality standard that is at least in part the basis of a National Pollutant Discharge Elimination System (NPDES) permit issued under this title must meet the conditions specified in:
>
> (1) 40 CFR 132, Appendix F, Procedure 2, in the case of waters within the Great Lakes system.

IC-13-14-8-9(a). In turn, 40 CFR 132, Appendix F, Procedure 2 establishes numerous requirements for SMV applications. 40 CFR 132, Appendix F, Procedure 2, C. Cargill's SMV application is missing at least two of these key requirements. First, Cargill has not, as required under 40 CFR 132, Appendix F, Procedure 2, demonstrated that meeting the Lake Michigan mercury limits is not feasible for one of the following reasons:

> 1. The permittee demonstrates that attaining the mercury WQS is not feasible because:
> a. Naturally occurring pollutant concentrations prevent the attainment of the WQS;[30]
> b. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the WQS, unless these conditions may be compensated for by the discharge of sufficient volume of effluent to enable WQS to be met without violating State or Tribal water conservation requirements;
> c. Human-caused conditions or sources of pollution prevent the attainment of the WQS and cannot be remedied, or would cause more environmental damage to correct than to leave in place;
> d. Dams, diversions or other types of hydrologic modifications preclude the attainment of the WQS, and it is not feasible to restore the waterbody to its original

[29] 2022 Application, Pollution Minimization Program Plan for Mercury at 6. "The focus of the PMPP is pollution prevention and source control and not treatment." *Id.* at n.14.

[30] Cargill states that the "daily average mercury in the Lake Michigan intake water ranges from 0.16 ng/L to 5.5 ng/L. The intake waters are first treated via a sand filter, reducing the TSS and therefore most likely a portion of the settleable mercury fraction." 2022 Application, Pollution Minimization Program Plan for Mercury at 6.

> condition or to operate such modification in a way that would result in the attainment of the WQS;
> e. Physical conditions related to the natural features of the waterbody, such as the lack of a proper substrate cover, flow, depth, pools, riffles, and the like, unrelated to chemical water quality, preclude attainment of WQS; or
> f. Controls more stringent than those required by sections 301(b) and 306 of the CWA would result in substantial and widespread economic and social impact.

40 CFR 132, Appendix F, Procedure 2, C.1. Cargill's 2022 SMV application does not even try to demonstrate infeasibility on any of these bases.

In fact, the only basis that Cargill has provided—that "the primary source of mercury is not controllable since the majority of flows for Outfall 001 are NCCW and augmentation flows with effluent mercury concentrations predominantly dependent on mercury present in the intake water"[31]—contradicts information that Cargill itself has provided. Cargill's application shows that the average mercury in the intake is orders of magnitude smaller than the amount in Cargill's discharges. Additionally, Cargill's PMPP states that the:

> daily average mercury in the Lake Michigan intake water ranges from 0.16 ng/L to 5.5 ng/L. The intake waters are first treated via a sand filter, reducing the TSS and therefore most likely a portion of the settleable mercury fraction. Therefore, no specific activities to control mercury in Lake Michigan intake waters are identified.[32]

Cargill further noted that "[a] significant portion of total mercury can often be associated with particulate matter."[33] These statements suggest not only that the intake of mercury from Lake Michigan is small, but that it is further decreased by the filtering process at the intake. In short, without a specific, evidenced showing that compliance with the 3.2 ng/L daily maximum and 1.3 ng/L monthly average mercury limits is infeasible, 40 CFR 132, Appendix F, Procedure 2, C.1 bars approval of the SMV.

Second, Cargill has not, as required by the federal variance regulations, "[c]haracterize[d] the extent of any increased risk to human health and the environment associated with granting the variance compared with compliance with WQS absent the variance, such that the State or Tribe is able to conclude that any such increased risk is consistent with the protection of the public health, safety and welfare." 40 CFR 132, Appendix F, Procedure 2, C.2. Cargill's SMV poses an ongoing, significant risk to the environment and human health, given that any excess mercury discharged to Lake Michigan will bioaccumulate in fish and other aquatic life and make those fish more dangerous for people to eat. Cargill's SMV application nonetheless fails to include *any* information

[31] 2022 Application, Stream-lined Mercury Variance Renewal Request at 2.
[32] 2022 Application, Pollution Minimization Program Plan for Mercury at 6.
[33] *Id.* at 6 n.13.

regarding these risks or even acknowledge the requirement for such information in 40 CFR 132, Appendix F, Procedure 2, C.2.

In sum, approving the renewed SMV would violate both Indiana and federal law. Cargill has not made the progress required for renewal of the variance under 327 IAC 5-3.5-7, and its application lacks key information needed to obtain the variance under 40 CFR 132, Appendix F, Procedure 2. 327 IAC 5-3.5-7.

C. The Term of the Renewed SMV Cannot be Longer Than Five Years

As noted, IDEM's renewal of a SMV must be "in accordance with IC 13-14-8-9…" 327 IAC 5-3.5-7. IC 13-14-8-9 requires that "[a] variance may be granted under this section for a period as follows: (1) For waters within the Great Lakes system, not more than five (5) years." IC 13-14-8-9(d). This does not change if the permit is administratively continued. IC 13-14-8-9(e).

The current Draft Permit, however, does not limit the SMV to five years. Instead, it allows Cargill to indefinitely rely upon the SMV until the next permit is renewed.[34] This timeframe for the SMV is contrary to Indiana and federal law. Instead, the maximum length of time the SMV can extend is 5 years from the effective date of the Final Permit. To comply with IC 13-14-8-9(d), the Final Permit must include the 3.2 ng/L daily maximum and 1.3 ng/L monthly average mercury limits as effective limits 5 years after the permit's effective date.

III. IDEM Ignored Significant Pollutants Discharged by Cargill, Including Metals, Nutrients, and PFAS

When drafting NPDES permits, state permitting agencies like IDEM are expected to both research potential pollutants of concern and evaluate whether they require technology-based effluent limitations (TBELs) or water quality-based effluent limitations (WQBELs). EPA, NPDES Permit Writer's Manual at 4-15.2. This research and review should include the values reported by the permittee in their certified discharge monitoring reports (DMR) and any other important information about the discharge, like EPA Toxic Release Inventory (TRI) Form Rs, technical reference documents about the effluent, industry, or raw materials; and related Clean Air Act permits "that could provide site-specific background information about the types of pollutants and wastestreams at a facility." *Id.* EPA's NPDES Permit Writer's Manual further notes that a permit writer is expected to research potential pollutants of concern even when the applicant states that the pollutants are "believed absent." *Id.*

This initial analysis of pollutants of concern is critical to drafting a permit that meets federal and state laws. IDEM cannot establish the needed TBELs, WQBELs, and monitoring requirements when it

[34] Draft Permit at 54 ("Pursuant to IC 13-14-8-9(e), when the NPDES permit is extended under IC 13-15-3-6 (administratively extended), the SMV will remain in effect as long as the NPDES permit requirements affected by the SMV are in effect.").

ignores the existence of a pollutant entirely.

Cargill has disclosed that pollutants of concern are present in its Outfall 001 effluent,[35] which is a combination of process wastewater, non-contact cooling water, steam condensate, filter backwash from sand filters, and stormwater.[36] IDEM, however, failed to consider most of these pollutants for TBELs, WQBELs, or even monitoring.[37] In fact, most of these pollutants are never mentioned in the Fact Sheet. These pollutants are listed below in Table 1.

Table 1, Pollutants Ignored by IDEM Despite Their Presence in Cargill Discharge

Pollutants	IDed as present in Application?	Discussed in Draft Fact Sheet or Draft Permit?
Fluoride	Present	No
Nitrate/Nitrite (as N)	Present	No
Nitrogen (as N)	Present	No
Oil & Grease	Present	No
Phosphorus	Present	No
Sulfite	Present	No
Aluminum	Present	No
Barium	Present	No
Boron	Present	No
Cobalt	Present	No
Iron	Present	No
Magnesium	Present	No
Molybdenum	Present	No
Manganese	Present	No
Tin	Present	No
Titanium	Present	No
Acetaldehyde	Present	No
Formaldehyde	Present	No

Additionally, IDEM also failed to consider limits or monitoring for additional pollutants that Cargill is required to test for. Those pollutants are listed below in Table 2.

[35] 2022 Application, Form 2C, Section V for Outfall 001, at PDF 23-32.
[36] Draft Permit at 2. *NPDES Permit (No. IN0000027) 2022 Renewal Application, Cargill Incorporated, Texturizing Solutions* at PDF 23-32, Form 2C, Section V for Outfall 001 (Sept. 26, 2022) ("2022 Application").
[37] Draft Fact Sheet at 16-19 (TBEL and WQBEL discussion).

Table 2, Pollutants Ignored by IDEM Despite Requirement to test Cargill Discharge		
Pollutants	IDed in Application as "Testing Required"?	Discussed in Draft Fact Sheet or Draft Permit?
Antimony	Yes	No
Arsenic	Yes	No
Beryllium	Yes	No
Cadmium	Yes	No
Chromium	Yes	No
Chromium, Hexavalent	Yes	No
Copper	Yes	No
Lead	Yes	No
Mercury	Yes	Yes
Nickel	Yes	No
Selenium	Yes	No
Silver	Yes	No
Thallium	Yes	No
Vanadium	Yes	No
Zinc	Yes	No
Cyanide (Free & Total)	Yes	No
Total Phenols	Yes	No

Of the pollutants in Table 2, only mercury is even mentioned in the Draft Permit or Fact Sheet. Additionally, mercury is the only pollutant in Table 2 with more than one test reported. And while the single test result for lead was less than 0.00016 mg/L, Cargill reported 36.8 lbs of lead discharged into Lake Michigan in 2023.[38]

Additionally, IDEM's failure to fully consider nutrient pollution could harm Lake Michigan. Cargill identified phosphorus, nitrogen, and nitrate/nitrite in its effluent as noted above in Table 1. Phosphorus and nitrogen degrade the suitability of waters as aquatic habitat and contribute to the growth of toxic algae blooms, which impair drinking water sources and otherwise degrade the Great Lakes. The permit does limit ammonia (as N),[39] but that is not a substitute for limiting the quantities and concentration of total nitrogen and nitrate/nitrite. Likewise, while Cargill must report its phosphorus discharges, the Draft Permit only includes a limit with regular (5 x weekly) monitoring for Internal Outfall 101. The Draft Permit fails to include a limit for Outfall 001 and the monitoring for phosphorus at Outfall 001 is only once per month.[40] Cargill dumped an

[38] U.S. EPA, Toxic Release Inventory, Form R, https://enviro.epa.gov/envirofacts/tri/form-r/dcn-details/1323221565373/2023.
[39] Draft Permit at 2.
[40] *Id.*

estimated 187,078 lbs of nitrate compounds[41] into Lake Michigan in 2023 and about 114 lbs a day of phosphorus into Lake Michigan in 2022.[42]

Finally, IDEM must evaluate Cargill's discharges for the presence of PFAS. Recent studies have identified food, beverage, and feedstock processing facilities as potential contaminant sources.[43] While Cargill's operations may not produce PFAS, PFAS may still be in its wastestream due to the possibility of sludge-applied corn stock.[44] Despite this, neither the Draft Permit nor in Cargill's 2022 Application even mention PFAS. IDEM's failure to even consider whether limits and monitoring are needed for these dangerous "forever chemicals" violates the CWA's requirements that NPDES permits contain BAT TBELs for toxics like PFAS and water quality limits to protect the use of Lake Michigan as a drinking water source. 33 USC §§ 1311, 1312.

IDEM has the authority to establish case-by-case limits for all PFAS to protect the use of Lake Michigan as a drinking water source based on Indiana's narrative water quality standard prohibiting substances or combinations of substances in concentrations toxic or harmful to human health in the Great Lakes. 327 Ind. Admin. Code 2-1.5-8; *see also* Attachment 5, EPA, *Addressing PFAS Discharges in NPDES Permits and Through the Pretreatment Program and Monitoring Programs* at 4 (Dec. 5, 2022) (EPA PFAS Memo) (discussing use of narrative water quality standards for PFAS limits).[45] IDEM should establish numeric limits for PFAS in the Final Permit to protect Lake Michigan and the communities that rely upon Lake Michigan for their drinking water. IDEM should base these limits on the federal PFAS drinking water standards.[46]

In sum, IDEM must now consider the pollutants discharged by Cargill but ignored in the Draft Permit, including the pollutants listed in Tables 1 and 2. As part of that consideration, IDEM must evaluate them for case-by-case TBELs, for WQBELs, and for monitoring, as discussed below.

IV. IDEM Must Evaluate and Add Case-By-Case Technology-Based Limits, Water Quality Based Limits, and Monitoring to the Cargill Permit

The Clean Water Act requires permits to include TBELs for conventional pollutants based on the best conventional technology (BCT) and TBELs for all toxic and nonconventional pollutants based on the best available treatment technology economically achievable (BAT). 33 U.S.C. §§

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[41] U.S. EPA, Toxic Release Inventory, Form R, https://enviro.epa.gov/envirofacts/tri/form-r/dcn-details/1323221565385/2023.
[42] 2022 Application, Form 2C, Section V for Outfall 001 at V-2.
[43] Laura Hubbard et al., *Food, Beverage, and Feedstock Processing Facility Wastewater: a Unique and Underappreciated Source of Contaminants to U.S. Streams*, 56 ENVTL. SCI. TECH. 1028 (2022), doi: 10.1021/acs.est.1c06821.
[44] Ryan Nebeker, *The EPA finally acknowledged the risks of PFAS in sewage sludge. What's next?*, FOODPRINT, last updated Feb. 10, 2025, https://foodprint.org/blog/pfas-in-sewage-sludge/. *See also* https://www.epa.gov/biosolids/draft-sewage-sludge-risk-assessment-perfluorooctanoic-acid-pfoa-and-perfluorooctane.
[45] https://www.epa.gov/system/files/documents/2022-12/NPDES_PFAS_State%20Memo_December_2022.pdf.
[46] https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas.

1311(b)(2), 1317(a)(1), 1317(a)(2). BCT limits for pollutants like total suspended solids (TSS), biological oxygen demand (BOD), and oil and grease must be based on the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived, a comparison of treatment with publicly owned wastewater plants, and other factors. 33 U.S.C. § 1314(b)(4)(A).

As discussed above for phosphorus, IDEM has established limits for both TSS and BOD at Internal Outfall 101 but only "monitored for reporting purposes at Outfall 001."[47] IDEM fails to explain why this monitoring and reporting scheme is appropriate—when it is Outfall 001 that discharges directly into Lake Michigan.[48] Additionally, none of the outfalls even monitor, let alone have a limit for, oil and grease, despite Cargill's 2022 Application showing that one-time testing showed oil and grease discharges of 330.4 lbs/day from Outfall 001.[49]

Where ELGs have not been established, IDEM is required to establish case-by-case BAT TBELs for all toxic and nonconventional pollutants known to be present in the discharge. 40 C.F.R. § 125.3(c)(2). To develop these case-by-case TBELs based on BAT, IDEM is to use the factors in 33 U.S.C. § 1314(b) and 40 C.F.R. § 125.3(d)(2), including the reasonableness of the relationship between the costs of reducing effluent and the benefits of that effluent reduction. IDEM must evaluate these pollutants of concern for case-by-case TBELs and include monitoring that will accurately characterize the discharge. 40 C.F.R. § 122.48 (NPDES permits must include monitoring at "type, intervals, and frequency sufficient to yield data which are representative of the monitored activity"); see also 40 C.F.R. § 123.25 (applying the regulation to the states).

As discussed above in Section III and listed in Tables 1 and 2, Cargill discharges numerous harmful pollutants that lack TBELs and WQBELs. To determine the need for TBELs or WQBELs, permittees should conduct a reasonable potential analysis. However, the 2022 Application, Fact Sheet, and Draft Permit are all silent on whether Cargill has conducted any reasonable potential analysis (with the exception of mercury and temperature) and whether 40 CFR § 122.44(d)(1) requirements were considered, applicable, or even met. Relatedly, there is no requirement in the Draft Permit for Cargill to conduct Whole Effluent Toxicity (WET) testing to ensure that state water quality criteria for aquatic life protection are met. WET testing requirements are included in permits to generate data used to determine whether reasonable potential has been demonstrated.[50]

Even if IDEM does not include limits for these pollutants in the permit, IDEM can and should require monitoring. 327 Ind. Admin. Code 5-2-11-5(e). Specifically, IDEM "may require monitoring for a pollutant or pollutant parameter even if it is determined that a WQBEL in the NPDES permit for that pollutant or pollutant parameter is not required." *Id.* Comprehensive monitoring of Cargill's effluent is needed in order for IDEM and the public to understand what

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[47] Fact Sheet at 20.
[48] *See* Figures A.3-4.
[49] 2022 Application, Form 2C, Section V for Outfall 001 at V-2.
[50] https://www.epa.gov/npdes/permit-limits-whole-effluent-toxicity-wet#requirements.

pollutants Cargill is discharging into state and federal waters. While Lake Michigan seems vast, its ability to absorb pollutants is not boundless. Additionally, Cargill is discharging these pollutants only a couple of hundred feet from a fishing pier, a bird sanctuary, and beach, and less than a mile from the City of Hammond water crib. *See* Figures A.1-A.4.

V. IDEM Must Require Cargill to Re-evaluate TBELs for Chlorides, Sulfates, and Ammonia for Outfall 001 Because It Cannot Rely Upon Outdated Flow Augmentation Determinations

Flow augmentation (dilution) is an artificial increase of flow used to ensure that concentrations of certain pollutants are below effluent limits. Here, Cargill evaluated various compliance methods to meet effluent limits for ammonia, chlorides, and sulfates and decided on flow augmentation in 2008.[51] IDEM approved the use of flow augmentation for Cargill to comply with those effluent limits starting in its 2013 NPDES Permit.[52]

The discharge limits of these pollutants are significant as shown in Table 3 below.

Table 3, Ammonia, Chloride and Sulfate Limits at Outfall 001

Pollutants	Loading Monthly Average (lbs/day)	Loading Daily Maximum (lbs/day)	Concentration Monthly Average (mg/l)	Concentration Daily Maximum (mg/l)
Ammonia				
Summer	54	128	0.42	0.99
Winter	61	142	0.47	1.1
Chloride	24,270	48,799	188	378
Sulfate	26,465	53,059	205	411

While Cargill had no issue meeting the loading effluent limits, flow augmentation allowed it to meet the concentration effluent limits as well.

Federal regulations allow flow augmentation to achieve water quality standards on a case-by-case basis but only if:

> (1) The technology-based treatment requirements applicable to the discharge are not sufficient to achieve the standards;

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[51] On July 11, 2008, Cargill "indicated that after evaluation, the environmental and economic option to achieve compliance for all parameters was the use of flow augmentation" as it was the only method that could achieve compliance for all three pollutants. Fact Sheet at 8.

[52] *See* 2013 Permit (VFC Doc. No. 69720644). IDEM originally required Cargill to conduct a technology evaluation to achieve compliance within 36 months for chlorides, sulfates, and ammonia discharges as part of Cargill's 2007 NPDES permit. Fact Sheet at 8.

(2) The discharger agrees to waive any opportunity to request a variance under section 301 (c), (g) or (h) of the Act; and
(3) The discharger demonstrates that such a technique is the preferred environmental and economic method to achieve the standards after consideration of alternatives such as advanced waste treatment, recycle and reuse, land disposal, changes in operating methods, and other available methods.

40 CFR § 125.3(f). Long-standing EPA guidance "discourages the use of flow augmentation as an alternative to treatment for meeting water quality standards . . . [and] cannot be considered as a substitute for the use of adequate treatment to meet water quality standards." U.S. Envtl. Prot. Agency, Memorandum from Assistant Administrator for Enforcement, Assistant Administrator for Water and Hazardous Materials, and General Counsel to the Regional Administrators and State NPDES Directors, Use of Low Flow Augmentation By Point Sources To Meet Water Quality Standards.[53] Furthermore, such exemptions "should be considered temporary and should be reviewed when the permit expires." *Id.*

IDEM completely fails to address whether Cargill meets the three requirements under 40 CFR § 125.3(f). The Fact Sheet merely states that "[b]ased on the evaluation of the information provided by the permittee, the continued use of flow augmentation in order to meet water quality-based effluent limits (WQBELs) for chlorides, sulfates, and ammonia have been allowed."[54] However, Cargill did not provide any additional information suggesting it has re-evaluated its treatment options for the three pollutants in its 2022 Application, nor has IDEM included any such evaluation in the Fact Sheet. The data and technologies Cargill relied upon to make its initial determination are more than 18 years old.

EPA guidance clearly limits use of flow augmentation to when it is necessary and the decision to use flow augmentation should be re-evaluated at the end of each permit term. Therefore, IDEM must require Cargill to conduct and submit to IDEM a new technology evaluation at permit renewal so that IDEM can determine whether flow augmentation remains the best method to achieve compliance with these limits or if other reduction methods should be required.

VI. IDEM Should Require Cargill to Provide Updated Facility Information

Commenters note that facility maps and figures included in Cargill's 2022 Application are very outdated. *See* Figures A.1, A.5. To ensure that IDEM and the public have an accurate understanding of where the facility and its Outfalls/Intakes are located along the modern shoreline and Wolf Lake channel, IDEM should require Cargill to provide updated facility information, including accurate maps and figures. *See* Figures A.1-A.6.

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[53] https://19january2021snapshot.epa.gov/sites/static/files/2020-02/documents/owm501.pdf
[54] Fact Sheet at 8.

VII. SUMMARY AND CONCLUSION

In summary, Commenters request the following changes to the Draft Permit Modification.

Change Requested	Discussion in Comments
Do not approve the SMV renewal. Require Cargill to meet Lake Michigan water quality standards for mercury.	Section II
Evaluate source for potential pollutants of concern, including those Outfall 001 pollutants listed in Tables 1 and 2.	Section III
Consider and evaluate potential TBELs, WQBELs, and monitoring for pollutants listed in Tables 1 and 2 for Outfall 001. Require WET testing.	Section IV
Require updated TBEL analysis for Outfall 001 for chlorides, sulfates, and ammonia prior to approving flow augmentation	Section V
Require Cargill to provide updated facility information	Section VI

Thank you for your consideration of these comments. Please feel free to reach out with any questions or if you need additional information.

Sincerely,

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Appendix A: Cargill Facility Figures

FIGURE A.1. Cargill Overview with Outfalls 001 and 006. Note position of Outfall 001 offshore from the Hammond Lakefront Park and Bird Sanctuary, NW of the Hammond Marina. Outfall 006 feeds into Wolf Lake. The shoreline is vastly changed since 2022 Application figures were created. Google Earth picture and labels by Pat Walter, BP & Whiting Watch.

FIGURE A.2. View of Hammond Marina with fishing pier in the foreground. Hammond Lakefront Park and Bird Sanctuary is the treed background on the left. Outfall 001 discharges in the area between. Photo by Carolyn Marsh, BP & Whiting Watch.

FIGURE A.3. View of Outfall 001 discharge area (yellow arrow) from Hammond Marina looking across at Hammond Lakefront Park and Bird Sanctuary. Photo by Carolyn Marsh, BP & Whiting Watch.

FIGURE A.4. View of Outfall 001 discharge area (yellow arrow) from Hammond Marina looking across at Hammond Lakefront Park and Bird Sanctuary. Photo by Carolyn Marsh, BP & Whiting Watch.

FIGURE A.5. View of Horseshoe Casino, built in 1996, from shoreline in front of Hammond Marina—the 2022 Application has the location of the casino marked as "Lakefront Park." Photo by Carolyn Marsh, BP & Whiting Watch.

FIGURE A.6. View of Cargill Lake Michigan Intake Pump House. Photo by Carolyn Marsh, BP & Whiting Watch.