



Iowa
Environmental
Council



ENVIRONMENTAL LAW & POLICY CENTER
Protecting the Midwest's Environment and Natural Heritage



SIERRA
CLUB

January 17, 2025

HR Green
Attention: Matt Wildman
8710 Earhart Lane SW
Cedar Rapids, Iowa 52404
Email: mwildman@hrgreen.com

RE: Comments on the Antidegradation Alternatives Analysis for Interstate Power and Light in Ottumwa, Iowa

Dear Mr. Wildman:

The Iowa Environmental Council (IEC), Environmental Law and Policy Center (ELPC), and Sierra Club offer the following comments on the Antidegradation Alternatives Analysis for Interstate Power and Light Company (IPL), noticed on December 19, 2024.

These comments represent the views of the Iowa Environmental Council, an alliance of more than 100 organizations, over 500 individual members, and an at-large board of farmers, business owners, and conservationists. IEC works to build a safe, healthy environment and sustainable future for Iowa. Our members care about air and water quality across the state, and they hike, recreate, and enjoy the outdoors in Iowa and beyond.

ELPC is a Midwest-based not-for-profit public interest environmental legal and economic development advocacy organization focused on improving environmental quality, including clean water and healthy clean air, and protecting the Midwest's natural resources. ELPC has members who reside in the State of Iowa and an office in Des Moines.

Sierra Club is a nonprofit organization with more than 800,000 members nationally and over 7,000 members in the state of Iowa, many of whom are IPL ratepayers. Sierra Club's mission includes promoting clean energy, and reducing air and water pollution associated with electricity generation. Many Sierra Club members in Iowa are IPL customers who have a strong interest in receiving reliable power that is generated and supplied in a cost-effective and environmentally sound manner.

HR Green conducted an Antidegradation Alternatives Analysis (AAA) for the IPL Ottumwa Midland Landfill (OML), which was publicly noticed on December 19, 2024. The AAA evaluates three alternatives to allow IPL to discharge the OML underdrain water to the Des Moines River. We find the AAA is inadequate and failed to address the actual underdrain water being discharged.

IPL must perform the AAA to address arsenic, cobalt, lithium, manganese, and molybdenum as pollutants of concern in the underdrain water. In addition, the AAA must analyze the

social/economic importance of the discharge and provide a justification for degrading water quality in the Des Moines River. In conducting its evaluation, IPL needs to address the ancillary benefits to water quality and environmental justice issues. In short, IPL needs to address deficiencies in the AAA before an NPDES permit can proceed.

I. Background

The Clean Water Act requires an antidegradation review before new or increased discharges of pollutants.¹ Antidegradation is a fundamental part of the Clean Water Act's effort to restore the "chemical, physical, and biological integrity" of water across the country.² Paired with designated uses and water quality criteria, antidegradation procedures act as a ratchet to prevent water quality from worsening. EPA has adopted regulations defining how states implement antidegradation requirements, including the process of considering alternatives and providing a justification before degrading water quality.³ EPA requires that in conducting an AAA:

“The analysis of alternatives shall evaluate a **range of practicable alternatives that would prevent or lessen the degradation** associated with the proposed activity. When the analysis of alternatives identifies one or more practicable alternatives, the State shall only find that a lowering is necessary if one such alternative is selected for implementation.”⁴

In Iowa, the Department of Natural Resources (IDNR) is responsible for implementing antidegradation requirements. Iowa has a complicated history of antidegradation policy. Iowa adopted an antidegradation policy in 2010 that incorporated an Antidegradation Implementation Procedure (AIP), which U.S. EPA approved.⁵ Under this policy, degradation of surface water that meets water quality standards is only allowed where “lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located.”⁶ In 2016, Iowa attempted to update its antidegradation policy, but the EPA disapproved the proposed rule amendments in 2017.⁷ The denial left the 2010 Antidegradation Implementation Procedure issued by the IDNR in effect as an enforceable water quality standard,⁸ even though state rules were not updated to reflect the denial.

As noted in the antidegradation alternatives analysis, the current stream designation for the impacted section of the Des Moines River is A1, B (WW-1), HH.⁹ The Des Moines River meets

¹ 33 U.S.C. § 1313(d)(4)(B).

² 33 U.S.C. § 1251.

³ 40 C.F.R. § 131.12.

⁴ 40 C.F.R. § 131.12 (a)(2)(ii).

⁵ See “Chapter 61, Water Quality Standards,” U.S. EPA, available at <https://www.epa.gov/sites/production/files/2017-05/documents/ia-chapter61-provisions.pdf>.

⁶ 40 C.F.R. § 131.12(a)(2); IOWA ADMIN. CODE r. 567-61.2(2).

⁷ Letter from Mark Hague, U.S. EPA Region 7, to John Tack, IDNR (Jan. 19, 2017), at 8 (“Despite the concerted effort by IDNR and EPA to reach consensus on an approvable rule, the EPA is disapproving the revised rules.”).

⁸ *Id.* (“Pursuant to 40 C.F.R. 131.21, the Antidegradation Rules and AIP approved by the EPA on September 30, 2010 remain in effect for CWA purposes.”). See “Section 2: Chapter 61, Water Quality Standards,” U.S. EPA, available at <https://www.epa.gov/sites/production/files/2017-05/documents/ia-chapter61-provisions.pdf>.

⁹ Antidegradation Alternatives Analysis at 3.

water quality standards for numerous pollutants, so it qualifies for Tier 2 protection according to the AIP.¹⁰ The AIP states:

“Where the quality of the waters exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality *shall be maintained and protected unless* the department finds, after full satisfaction of the intergovernmental coordination and public participation provisions, that *allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located*. In allowing such degradation or lower water quality, the department shall assure water quality adequate to protect existing uses fully. Further, *the department shall assure the highest statutory and regulatory requirements for all new and existing point sources* and all cost-effective and reasonable best management practices for nonpoint source control *before allowing any lowering of water quality*.¹¹

Since OML first started operations in 1995, OML has been pumping the underdrain water into an area IPL characterizes as a wetland. IPL maintains this wetland connects to the Des Moines River via unnamed creeks. IPL applied for the underdrain water to be covered under IDNR Stormwater General Permit number 1, and received initial approval from the IDNR on October 1, 1994, and has to-date maintained that coverage.

However, as a condition of coverage under Stormwater General Permit 1, “all discharges covered by this permit shall be composed entirely of storm water except as follows:... uncontaminated groundwater...”. The underdrain water is contaminated and is not an allowed discharge under Stormwater General Permit 1. In response to IDNR communication in 2023 to seek an individual National Discharge Pollution Elimination System (NPDES) permit for the OML underdrain water, IPL conducted the antidegradation analysis noticed on December 19, 2024.¹²

Consistent with the Iowa Antidegradation Implementation procedure, *all new or expanded regulated activities are subject to antidegradation review requirements*.¹³ The creation of a discharge of the underdrain water to the Des Moines River will clearly result in the addition of pollution, including numerous pollutants found in the underdrain water that will degrade water quality. Thus, the proposed change in process requires an antidegradation analysis.

¹⁰ “Iowa Antidegradation Implementation Procedure,” Iowa DNR (Feb. 17, 2010), at 4, available at https://www.iowadnr.gov/Portals/idnr/uploads/water/standards/files/antideg_2_17.pdf (“Tier 2 protection level applies to all surface waters where existing water quality is better than applicable water quality standards as determined on a pollutant-by-pollutant basis”).

¹¹ *Id.* at 4.

¹² Antidegradation Alternatives Analysis at 1; email from Matthew Bizjack (Alliant Energy) to IDNR, dated Sept. 6, 2023.

¹³ “Iowa Antidegradation Implementation Procedure,” Iowa DNR (Feb. 17, 2010), at 12, available at https://www.iowadnr.gov/Portals/idnr/uploads/water/standards/files/antideg_2_17.pdf

II. A New Discharge and Additional Pollutants of Concern Trigger a New Antidegradation Review that Corrects Deficiencies of the Prior Analysis.

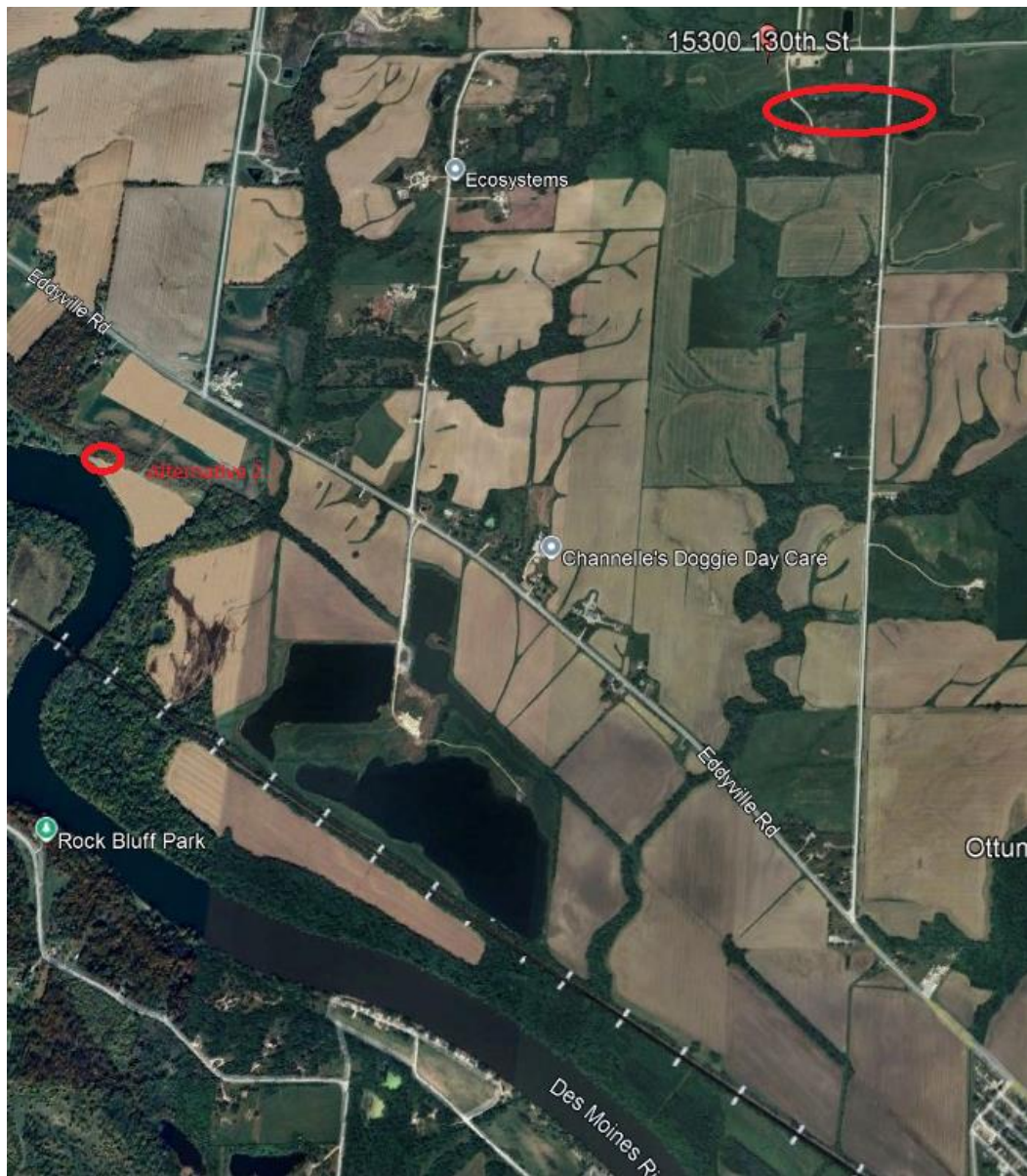
The AAA makes the representation that the underdrain water from OML currently is pumped to an area IPL characterizes as a wetland, which then connects to the Des Moines River via unnamed creeks.¹⁴ However, the AAA provides no documentation verifying and identifying the wetland, or the presumed path that the underdrain water flows from the wetland to the Des Moines River. In the maps below, we have identified the area that presumably IPL has identified as the wetland and an overview of the area between that area and the Des Moines River.

Figure 1. Wetland at OML discharge site.



¹⁴ Antidegradation Alternatives Analysis at 2. The U.S. Fish and Wildlife Service does not show wetlands in the area of the discharge. See <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>.

Figure 2. OML site (top right) and potential discharge point at the Des Moines River.



The AAA notes both Alternative 1 and Alternative 3 involve use of the area characterized as a wetland and unnamed creeks, so the AAA should demonstrate the path the underdrain water takes to the Des Moines River. Also, given that the current discharge traverses over and through the soils between the landfill and the river, it is highly improbable that the entire underdrain water discharge reaches the river. By discharging to a wetland, some of the water infiltrates or evaporates on its path from the existing discharge point and the Des Moines River. As a result, Alternative 2 clearly would increase the polluted discharge to the river.

A. *The Antidegradation Alternatives Analysis for Ottumwa Midland Landfill Must Evaluate Alternatives for all Pollutants.*

The AIP requires that the IDNR “assure the highest statutory and regulatory requirements for existing point sources must be met before allowing any lowering of water quality.”¹⁵ The direct discharge alternative selected in the AAA is inconsistent with both the state’s antidegradation requirements and the statutory intent of the Clean Water Act. Directly discharging the underdrain water to Des Moines River neither prevents nor lessens the degradation, and as discussed below, has not been justified.

The AAA makes the representation that the “Pollutants of Concern (POCs) for the underdrain operation are listed in Table 3 and include all parameters that have a reasonable potential to be present in the underdrain water and are *currently sampled for compliance monitoring*.”¹⁶ However, contrary to the representation, data for several identified pollutants of concern is notably absent from the available underdrain monitoring , including Cadmium, Chromium, Cyanide, Nickel, Silver, and Thallium.¹⁷

Given the disparity in sampling results and the failure to address all pollutants of concern in the AAA, we calculated the potential quantity of toxics and pollutants using the maximum concentrations experienced, as shown below in Table 11 and Appendix F, over the 2020 through 2024 timeframe.¹⁸

¹⁵ AIP at 4.

¹⁶ Antidegradation Alternatives Analysis at page 5.

¹⁷ Alliant Energy, 2024 Annual Water Quality Report, at pages 43 and 437, available at <https://programs.iowadnr.gov/solidwaste/OpenText/DownloadDocument/111409>.

¹⁸ Alliant Energy, 2024 Annual Water Quality Report, at pages 43 and 437, available at <https://programs.iowadnr.gov/solidwaste/OpenText/DownloadDocument/111409>.

Table 11
Data Analytical Summary - Additional Points
2024 Annual Water Quality Report
Ottumwa Midland Landfill
Permit No. 90-SDP-8-92P

CHEMICAL PARAMETER	GWPS	GWPS SOURCE	EVENT	GU-1 TEMP	GU-2	GU-EX	LP-1	SW-1R	SW-2R	SW-3	SW-4	SW-5	LEACHATE BASIN	TCB-1/2
ARSENIC, µg/L	10	MCL	2024-Aug	<0.53		0.70 J				2.0			9.7	0.95 J
BARIIUM, µg/L	2,000	MCL	2024-Aug	38		35				52			72	76
BERYLLIUM, µg/L	4	MCL	2024-Aug	<0.33		<0.33				<0.33			<0.33	<0.33
BORON, µg/L	6,000	SWS	2024-Aug	270		900				560			2,100	430
CALCIUM, mg/L	--	--	2024-Aug	230		150				61			260	130
COBALT, µg/L	2.1	SWS	2024-Aug	11		3.5				0.20 J			0.68	<0.17
COPPER, µg/L	1,300	SWS	2024-Aug	<1.8		<1.8				<1.8			<1.8	<1.8
FLUORIDE, mg/L	4	MCL	2024-Aug	0.42 J		0.46 J				<0.38			<0.38	<0.38
IRON, µg/L	--	--	2024-Aug	<36		260				76 J			<36	<36
LEAD, µg/L	15	SWS	2024-Aug	<0.26		<0.26				<0.26			<0.26	<0.26
LITHIUM, µg/L	14	SWS	2024-Aug	48		26				8.7 J			43	3.3 J
MAGNESIUM, µg/L	--	--	2024-Aug	61000		36000				23000			28000	14000
MANGANESE, µg/L	300	SWS	2024-Aug	2000	DRY	250	DRY	DRY	DRY	26	DRY	DRY	86	6.0 J
MOLYBDENUM, µg/L	40	SWS	2024-Aug	2.2		48				9.9			680	3.9
SELENIUM, µg/L	50	MCL	2024-Aug	1.4 J		4.7 J				1.9 J			76	<1.4
ZINC, µg/L	2000	SWS	2024-Aug	29		39				<9.7			<9.7	<9.7
CHLORIDE, mg/L	--	--	2024-Aug	20		32				4.6 J			1000	12
SULFATE, mg/L	--	--	2024-Aug	390		460				250			1,900	380
TOTAL DISSOLVED SOLIDS, mg/L	--	--	2024-Aug	1100		930				410			5,000	590
TOTAL SUSPENDED SOLIDS, mg/L	--	--	2024-Aug	<1.4		2.5				8.3			6.0	3.9
pH, SU	--	--	2024-Aug	6.73		7.70				8.56			8.60	8.06
TEMPERATURE, DEGREES C	--	--	2024-Aug	20.7		23.3				28.1			25.8	28.3
DISSOLVED OXYGEN	--	--	2024-Aug	6.66		7.22				8.94			12.64	8.39
OXIDATION REDUCTION POTENTIAL	--	--	2024-Aug	83.1		56.2				18.0			63.7	71.9
SPECIFIC CONDUCTANCE, UMHOS/CM	--	--	2024-Aug	1438		1281				651			6,769	863

NOTES:

MCL = Maximum Contaminant Level

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

SWS = Statewide Standard for Groundwater

-- = Not Applicable

Updated by: LH Date: 9/26/2024
Checked by: RM Date: 11/5/2024

I:\25224073.00\Deliverables\2024 AWQR\Tables\AWQR_OML_Tables_241104.xlsx11-Additional Points

Table 10, Page 1 of 1

Appendix F
Additional Points Data History, 2020-Present*
Ottumwa Midland Landfill
Permit No. 90-SDP-8-92P

CHEMICAL PARAMETER	GU-1 TEMP				GU-2					GU-EX					LP-1					
	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024	2020	2021	2022	2023	2024
ARSENIC, UG/L	<0.88	<0.75			<0.53						<0.88	1.9 J	2.2		0.70 J					
BARIIUM, UG/L	45	41 B			38						30	25 B	64		35					
BERYLLIUM, UG/L	<0.27	<0.27			<0.33						<0.27	<0.27	<0.27		<0.33					
BORON, UG/L	520	370			270						1,000	1,000	870		900					
CALCIUM, MG/L ⁽¹⁾	--	--			230						--	--	--		150					
COBALT, UG/L	11	14			11						1.3	2.6	4.0		3.5					
COPPER	<1.5	<1.4			<1.8						<1.5	<1.4	7.5		<1.8					
FLUORIDE, MG/L	<0.23	0.47 J			0.42 J						0.30 J	0.76	<0.22		0.46 J					
IRON, UG/L	<50.0	41 J			<36						720	810	6,900		260					
LEAD, UG/L	<0.11	<0.21			<0.26						<0.11	<0.21	1.1		<0.26					
LITHIUM, UG/L ⁽¹⁾	--	--			48						--	--	--		26					
MAGNESIUM, UG/L	70,000	67,000	Too Little		61000						29,000	38,000	53,000		36000					
MANGANESE, UG/L	3,100	3,000	Water to Sample	DRY	2000	DRY	DRY	DRY	DRY	DRY	240	530	400	DRY	250	DRY	DRY	DRY	DRY	DRY
MOLYBDENUM, UG/L ⁽¹⁾	--	--			2.2						--	--	--		48					
SELENIUM, UG/L	<1.0	<0.96			1.4 J						<1.0	0.97 J	2.0 J		4.7 J					
ZINC, UG/L	40	35			29						10.0 J	<10	36		39					
CHLORIDE, MG/L	16	17			20						5.5	8.2	15		32					
SULFATE, MG/L	500	460			390						390	440	700		460					
TOTAL DISSOLVED SOLIDS, MG/L	1,200	1,100			1100						750	880	1,200		930					
TOTAL SUSPENDED SOLIDS, MG/L ⁽¹⁾	--	--			<1.4						--	--	--		2.5					
pH, SU	7.03	6.44			6.73						7.16	7.25	6.76		7.7					
TEMPERATURE, DEGREES C	16	15.9			20.7						20.5	19.9	17.8		23.3					
SPECIFIC CONDUCTANCE, UMHOS/CM	1,758	1,615			6.66						1,114	1,298	1,489		7.22					
OXIDATION REDUCTION POTENTIAL, MV ⁽¹⁾	--	--			83.1						--	--	--		56.2					
DISSOLVED OXYGEN, MG/L ⁽¹⁾	--	--			1438						--	--	--		1281					

NOTES:

1. Parameter added to sampling list in 2023 as part of monitoring program modifications directed by IDNR.

2. Specific conductivity probe was likely not fully submerged in liquid at SW-3 in 2023.

* Historical data through 2019 are included in Appendix C

C:\Users\hawksworth\AppData\Roaming\Microsoft\Excel\AWQR_OML_Tables_241104 (version 1).xlsx\Appendix F_Add. Points History

Updated: LH, 9/26/2024

Checked: RM, 11/5/2024

The table below shows the calculated potential annual quantity of toxics and pollutants proposed to be discharged into the Des Moines River based on the OML monitoring data above and the daily pumping capacity.¹⁹

Table 1. Potential Annual Discharge Mass by Pollutant.

Based on 84,000 gallons per day (30,660,000 gallons per year)							
Conversion Factors:	1 gallon = 3.78541178 Liters						
	1 mg = 0.0000022046 lbs						
Highlighted rows:	toxics identified by the World Health Organization, and ELG POC's						
Highlighted rows:	Analytes above groundwater protection standards						
Analyte	2020-2024			Highest	Maximum		
	GU1	GU-EX	GWPS	mg/L	Liters/year	mg	lbs
ARSENIC, UG/L	<0.88	2.20		0.0022	116,060,725	255,334	0.56
BARIUM, UG/L	45.00	64.00		0.064	116,060,725	7,427,886	16.38
BERYLLIUM, UG/L	<0.33	<0.33		0.0003	116,060,725	38,300	0.08
BORON, UG/L	520.00	1000.00		1	116,060,725	116,060,725	255.87
CALCIUM, MG/L ⁽¹⁾	230.00	150.00		230	116,060,725	26,693,966,790	58,849.52
COBALT, UG/L	14.00	4.00	2.1 UG/L	0.014	116,060,725	1,624,850	3.58
COPPER	<1.8	7.50		0.0075	116,060,725	870,455	1.92
FLUORIDE, MG/L	0.47	0.76		0.76	116,060,725	88,206,151	194.46
IRON, UG/L	41.00	6900.00		6.9	116,060,725	800,819,004	1,765.49
LEAD, UG/L	<0.26	1.10		0.0011	116,060,725	127,667	0.28
LITHIUM, UG/L ⁽¹⁾	48.00	26.00	14 UG/L	0.048	116,060,725	5,570,915	12.28
MAGNESIUM, UG/L	67000.00	53000.00		67	116,060,725	7,776,068,587	17,143.12
MANGANESE, UG/L	2000.00	400.00	300 UG/L	2.000	116,060,725	232,121,450	511.73
MOLYBDENUM, UG/L ⁽¹⁾	2.20	48.00	40 UG/L	0.048	116,060,725	5,570,915	12.28
SELENIUM, UG/L	1.40	4.70		0.005	116,060,725	545,485	1.20
ZINC, UG/L	40.00	39.00		0.04	116,060,725	4,642,429	10.23
CHLORIDE, MG/L	20.00	32.00		32	116,060,725	3,713,943,206	8,187.76
SULFATE, MG/L	500.00	700.00		700.00	116,060,725	81,242,507,622	179,107.23
TOTAL DISSOLVED SOLIDS, MG/L	1200.00	1200.00		1,200.00	116,060,725	139,272,870,210	307,040.97
TOTAL SUSPENDED SOLIDS, MG/L ⁽¹⁾	<1.4	2.50		0.0025	116,060,725	290,152	0.64

This represents the potential of over 573,000 pounds of untreated pollutants per year being discharged from the Ottumwa landfill to the Des Moines River, and includes four pollutants (Cobalt, Lithium, Manganese, and Molybdenum) above groundwater protection standards listed in Table 11 of the AAA.

¹⁹ Alliant Energy, 2024 Annual Water Quality Report, at pages 43 and 437, available at <https://programs.iowadnr.gov/solidwaste/OpenText/DownloadDocument/111409>.

The AAA does not mention the use of the Des Moines River as a drinking water source for the City of Ottumwa.²⁰ The Des Moines River downstream of the discharge is designated Class C.²¹ The maximum arsenic concentration in the underdrain discharge, according to Appendix F, is 2.2 ug/L. The water quality standard to protect human health is 0.18 ug/L.²² Thus, the underdrain water has exceeded the water quality standard by more than ten times, but the AAA did not address it.

B. The AAA Completely Misunderstands Social and Economic Importance.

Antidegradation regulations prohibit degradation of water unless the lower water quality is “necessary to accommodate important economic or social development in the area in which the waters are located.”²³ The IDNR has explained that this importance addresses the “social and economic benefits to the community that will occur from any activity resulting in a new or expanded discharge.”²⁴

The AAA notes “Alternative 2 uses the Des Moines River as a new outfall location and will introduce a new pollutant stream, resulting in degradation.”²⁵ However, in attempting to justify the proposed degradation and demonstrate the important economic and social development in the area, the AAA provides an abbreviated and deficient analysis. It never identifies the “benefits to the community” that justify the new discharge.

The analysis compares five social and economic factors of Ottumwa to the Iowa average. The analysis notes that this implies that Ottumwa is more susceptible to social and economic disruption than the average town in Iowa, and that “IPL has an obligation to prevent unnecessary increases to energy customer costs.”²⁶ The AAA further claims that Alternative 2 “is not anticipated to impact the local community” and offers significant cost savings long-term compared to Alternative 3.²⁷ These claims misrepresent the impact of costs and ignore the potential downstream impact of the degradation on the community drinking water supply.

The analysis never identifies impacts to the local community – either socioeconomic benefits or avoided costs – that could possibly justify degradation. The only potential socioeconomic benefit identified in the AAA is avoidance of treatment costs. But those costs would be spread over the full-service area of IPL, not just Ottumwa customers.

The AAA estimates the 20-year cost of directly discharging to the Des Moines River at \$4.1 million (\$205,050 per year) while estimating the 20-year cost of treating the underdrain water prior to discharge at \$7.59 million (\$379,670 per year).²⁸ The AAA claims that this difference in

²⁰ The Wasteload Allocation conducted by IDNR and attached to the AAA as an appendix does mention the Ottumwa Water Works Intake, but the AAA itself does not address this fact.

²¹ AAA at Appendix A, p. 3. See Iowa DNR, Des Moines River IA 04-LDM-1011, ADBNet, available at <https://programs.iowadnr.gov/adbnr/Segments/1011> (identifying the segment of the Des Moines River at the point of the potential discharge as Class C with human health designated uses).

²² Iowa Admin. Code r. 567-61.3 Table 1.

²³ 40 C.F.R. § 131.12(a)(2); IOWA ADMIN. CODE r. 567-61.2(2)(b).

²⁴ AIP at 2.

²⁵ Antidegradation Alternatives Analysis at page 12.

²⁶ *Id.* at 14.

²⁷ *Id.* at 12.

²⁸ *Id.* at 9, 11.

20-year costs (\$3.5 million) is significant, and implies that the cost to treat the water poses an “important economic impact.”

In the latest IPL rate case, the agreed upon amount IPL is allowed to charge customers annually was \$1,961,339,337.²⁹ Although rates are determined based on a class of service study, and the rates for industrial, commercial, and residential customers are based on the cost to serve each class of customer, for purposes of demonstrating the insignificant impact of the cost to treat the underdrain water, a simplified analysis is sufficient. In 2023, IPL sold 13,940,034,000 kwh to customers.³⁰ As demonstrated below, the customer impact to treat the water prior to discharge adds a little over 2.7 cents to a residential customer’s annual electric bill, compared to the customer impact to discharge directly to the Des Moines River adding a little under 1.5 cents to the customer’s annual electric bill.

Table 2. Marginal cost of treatment for typical residential customer.

	20-Year Cost	Average Cost/Year	2023 Kwh Sold	\$/Kwh	Customer Impact *
Alternative 2	\$ 4,101,000	\$ 205,050	13,940,034,000	\$ 0.0000147	\$ 0.0147
					\$ -
Alternative 3	\$ 7,593,400	\$ 379,670	13,940,034,000	\$ 0.0000272	\$ 0.0272
					\$ -
Difference	\$ 3,492,400	\$ 174,620		\$ 0.0000125	\$ 0.0125
* Based on average residential customer of 1000 Kwh per year					

By any definition, this is not a significant economic impact to either the local community or IPL customers.

The AAA also argues that the degradation is justifiable because the effluent being discharged will still reach the same body of water (Des Moines River) while avoiding the need for treatment.³¹ However, the AAA does not mention or discuss the underdrain water POCs above groundwater protection standards from OML in the design conditions or in the alternatives analysis.³²

Five miles downstream from the proposed discharge, the City of Ottumwa has a drinking water intake on the Des Moines River.³³ The AAA proposes to discharge the underdrain water directly to the river without treatment and without the opportunity for infiltration or natural treatment processes that may exist in the wetland and unnamed creeks receiving the existing discharge. The AAA makes no effort to account for potential treatment costs by the city for removing the tons of pollutants discharged by from underdrain. By its own findings, the socioeconomic analysis of Ottumwa means that if the drinking water treatment system requires upgrades due to the pollution load, the community is “more susceptible” to disruption from those costs.³⁴

²⁹ IPL Rate Case Final Decision and Order, RPU-2023-0002, September 17, 2024 at 6, available at <https://efs.iowa.gov/document/document-permalink/5100789>.

³⁰ IPL 2023 FERC Form 1 at page 174.

³¹ *Id.* at 6 -12.

³² *Id.* at 6 -12.

³³ See Antidegradation Alternatives Analysis at 22.

³⁴ *Id.* at 14.

Because the AAA did not identify any legitimate social or economic benefits from the degradation, no degradation is allowed by law.

C. The AAA Cannot Ignore Ancillary Water Quality And Environmental Justice Benefits of Treatment.

In its recently revised technology-based effluent limitations guidelines and standards (ELGs) for the steam electric power generating point source category, EPA included an analysis on environmental justice. The analysis showed that benefits associated with improvements to water quality, wildlife, and human health resulting from reductions in pollutants in surface water and drinking water will accrue to minority and low-income populations at a higher rate under some or all of the proposed regulatory options.

Using the EPA's [Environmental Justice Screening tool](#), the area within 20 miles of the Ottumwa Midland Landfill has potentially significant environmental justice issues. The area is above the 50th percentile nationally for multiple demographic indicators (low-income, unemployment, limited English speaking households, less than high school education, under age 5, and over age 64) as well as numerous environmental indicators (lead paint, RMP facility proximity, underground storage tanks, and drinking water non-compliance).

Figure 3. Point selected for EJScreen 20-mile radius.



Table 3. Environmental justice indicators within 20 miles of OML.

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
ENVIRONMENTAL BURDEN INDICATORS					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	7.6	7.66	59	8.45	32
Ozone (ppb)	56.7	57.9	29	61.8	31
Nitrogen Dioxide (NO_2) (ppbv)	5.3	7	29	7.8	26
Diesel Particulate Matter ($\mu\text{g}/\text{m}^3$)	0.0984	0.113	50	0.191	27
Toxic Releases to Air (toxicity-weighted concentration)	580	2,800	47	4,600	49
Traffic Proximity (daily traffic count/distance to road)	450,000	1,400,000	51	1,700,000	37
Lead Paint (% Pre-1960 Housing)	0.5	0.45	54	0.3	74
Superfund Proximity (site count/km distance)	0.0024	0.16	71	0.39	56
RMP Facility Proximity (facility count/km distance)	0.63	0.89	52	0.57	69
Hazardous Waste Proximity (facility count/km distance)	0.51	0.62	58	3.5	34
Underground Storage Tanks (count/km ²)	1.7	1.9	68	3.6	60
Wastewater Discharge (toxicity-weighted concentration/m distance)	22	1100	61	700000	42
Drinking Water Non-Compliance (points)	0.89	0.16	95	2.2	77
SOCIOECONOMIC INDICATORS					
Demographic Index USA	1.05	N/A	N/A	1.34	45
Supplemental Demographic Index USA	1.7	N/A	N/A	1.64	59
Demographic Index State	1.46	1.31	69	N/A	N/A
Supplemental Demographic Index State	1.8	1.46	75	N/A	N/A
People of Color	15%	15%	63	40%	29
Low Income	35%	29%	68	30%	63
Unemployment Rate	4%	4%	65	6%	53
Limited English Speaking Households	2%	2%	80	5%	65
Less Than High School Education	10%	8%	77	11%	60
Under Age 5	7%	6%	63	5%	67
Over Age 64	19%	19%	54	18%	60

At a state level, the area is at the 95th percentile in the state for drinking water non-compliance. The antidegradation analysis makes no mention of the drinking water intake for the City of Ottumwa five miles downstream from the proposed discharge point.

Accordingly, we recommend that Interstate Power and Light consider the environmental justice issues associated with Ottumwa as a part of a new antidegradation analysis.

III. Underdrain Discharges May Be Subject to Effluent Limit Guidelines.

The Ottumwa Midland Landfill was built 30 years ago and included variances during construction related to separation from groundwater. The underdrain discharges contain many of the same pollutants as combustion residual leachate. If any of the leachate water is reaching the underdrain system, the discharge from the underdrain would be subject to effluent limit guidelines as unmanaged leachate.³⁵ The AAA does not address the possibility of leachate

³⁵ See 40 C.F.R. § 423.11(ff)(2) (unmanaged leachate is leachate that "[h]as leached from a waste management unit into the subsurface and mixed with groundwater prior to being captured and pumped to the surface for discharge directly to WOTUS.").

entering the underdrain, nor does it address the treatment requirements of the effluent limit guidelines.³⁶ We recommend Alliant and IDNR investigate this issue to determine whether additional treatment is required.

IV. Conclusion

Prior to issuing an NPDES permit for OML, IPL must perform a new AAA to address arsenic, cobalt, lithium, manganese, and molybdenum as pollutants of concern in the underdrain water. In addition, the AAA must analyze the social/economic importance and provide a justification for degrading water quality in the Des Moines River. In conducting its evaluation, IPL needs to address the ancillary benefits to water quality and environmental justice issues. Without that analysis, DNR cannot legally authorize the discharge.

Thank you for the opportunity to comment. We would be happy to discuss any of these comments informally prior to submission of the final alternatives analysis to IDNR. If you have questions or we can clarify these comments further, please feel free to contact us.

Sincerely,

/s/ Steve Guyer

Steve Guyer
Energy Policy Counsel
Iowa Environmental Council
505 5th Ave, Ste 850
Des Moines, IA 50309
guyer@iaenvironment.org

/s/ Michael Schmidt

Michael Schmidt
General Counsel
Iowa Environmental Council
505 5th Ave, Ste 850
Des Moines, IA 50309
schmidt@iaenvironment.org

/s/ Joshua Smith

Joshua Smith
Senior Staff Attorney
Sierra Club
2101 Webster St, #1300
Oakland, CA 94612
joshua.smith@sierraclub.org

/s/ Josh Mandelbaum

Josh Mandelbaum
Senior Attorney
Environmental Law & Policy Center
505 5th Ave, Ste 333
Des Moines, IA 50309
jmandelbaum@elpc.org

³⁶ 40 C.F.R. § 423.13(l).