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April 12, 2023

Jacob Arnold
MidAmerican Energy Company
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RE: Comments on the Antidegradation Alternatives Analysis for Neal North

Dear Mr. Arnold:

The Iowa Environmental Council (IEC) and Environmental Law and Policy Center (ELPC) offer the following comments on the Antidegradation Alternatives Analysis for Neal North Outfall 16 (“AAA”), placed on public notice March 15, 2023. The Iowa Environmental Council is 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. ELPC is a non-profit public interest corporation with Iowa members and an office in Des Moines that works to protect waters throughout Iowa and the Midwest. IEC and ELPC’s members care about water quality across the state, and they fish, swim, recreate, and enjoy the outdoors in Iowa and beyond.

MidAmerican has proposed through the AAA to discharge pollutants directly into the Missouri River. MidAmerican’s analysis does not demonstrate that the proposed degradation is necessary, and it fails to consider reasonable alternatives available. IEC and ELPC find the analysis must be revised to reflect the upcoming Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source. For Combustion Residual Leachate (CRL), the Environmental Protection Agency (EPA) is proposing chemical precipitation as the best available technology (BAT) economically available. MidAmerican must expand the AAA to reflect the proposed BAT for combustion residual leachate. In addition, the AAA contains no justification for degrading water quality in the Missouri River, and instead relies on a misapplication of the purpose of analyzing social/economic importance. In conducting its evaluation, MidAmerican also needs to address the ancillary benefits to water quality and environmental justice impacts. In short, each aspect of the AAA is wholly deficient. MidAmerican needs to start over.

I. Background

Antidegradation is a fundamental part of the Clean Water Act's effort to restore the "chemical, physical, and biological integrity" of water across the county.¹ 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.² 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.³

In Iowa, the Department of Natural Resources 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.⁴ 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."⁵ For high-quality waters (Tier 2 ½ and 3), the outstanding characteristics must be maintained.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 Iowa Department of Natural Resources (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 AAA, the current stream designation for the impacted section of the Missouri River is A1, B (WW-1), HH.⁹ The Missouri River meets water quality standards for numerous pollutants, so it qualifies for Tier 2 protection according to the AIP.¹⁰ The AIP states:

¹ 33 U.S.C. § 1251.

² 40 C.F.R. § 131.12.

³ 40 CFR § 131.12 (a)(2)(ii) (emphasis added).

⁴ 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>.

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

⁶ 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 AAA at 2.

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").

“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

Leachate is a significant source of water pollution. The federal Court of Appeals that evaluated a challenge to EPA’s 2015 effluent limit guidelines for combustion residual leachate concluded that “leachate alone would qualify as the 18th-largest source of water pollution in the nation, producing more toxic-weighted pound equivalents than the entire coal mining industry.”¹² In rejecting EPA’s proposed technology for treatment, the court concluded that “impoundments have been in operation for over three decades, and . . . the agency’s own rule amply demonstrates their ineffectiveness in controlling discharges from wastestreams including leachate.”¹³

Iowa has not listed the Missouri River as impaired based on bioaccumulative pollutants like mercury, but the state of Missouri has issued fish consumption advisories for the Missouri River due to mercury.¹⁴ Mercury in the form of methylmercury is bioaccumulative, meaning that it accumulates through the food web. Missouri’s fish advisory cautions against eating several species of fish due to mercury, PCB, and chlordane concentrations for the entire stretch of the Missouri River through the state.¹⁵

MidAmerican Energy currently stores the Neal North leachate in zero-discharge holding ponds without a direct discharge to surface water.¹⁶ Although it has done so before under its NPDES permit, the site cannot currently discharge directly to surface water.¹⁷ Beginning to discharge the leachate to the Missouri River will clearly result in the addition of pollution, including numerous pollutants found in the leachate that will degrade water quality. Proposing to discharge leachate into the Missouri River without treatment requires showing that the resulting degradation is necessary for important social and economic development. The AAA fails to do so.

¹¹ *Id.* at 4.

¹² *Sw. Elec. Power Co. v. United States EPA*, 920 F.3d 999, 1004 (5th Cir. 2019).

¹³ *Id.* at 1031.

¹⁴ “2020 MISSOURI FISH ADVISORY: A Guide to Eating Missouri Fish,” Missouri Department of Health & Senior Services, last visited Apr. 10, 2023, available at <https://health.mo.gov/living/environment/fishadvisory/pdf/fishadvisory.pdf>.

¹⁵ *Id.* at 2.

¹⁶ AAA at ii, 1.

¹⁷ AAA at 2.

II. The Antidegradation Alternatives Analysis for Neal North Must Evaluate Chemical Precipitation as the Best Available Technology.

In assessing the available alternatives, MidAmerican’s consultant, GHD, considered a non-exhaustive suite of available alternatives. MidAmerican selected an alternative that provides no control of the leachate and discharges pollutants directly into the Missouri River. The analysis failed to provide a proper assessment of the alternatives and the associated degradation.

In identifying the alternatives, the AAA failed to consider effluent limit guidelines (ELGs) announced by U.S. EPA in early March 2023 – before the AAA was released for public notice.¹⁸ The proposed rules have since been published in the Federal Register.¹⁹ The DNR, as required by the AIP, “shall assure the highest statutory and regulatory requirements for existing point sources ... before allowing any lowering of water quality.”²⁰ In the upcoming Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category, EPA is proposing chemical precipitation as the best available technology (BAT) economically available to treat Combustion Residual Leachate (CRL). Accordingly, the Neal 3 leachate will soon need to meet BAT for any discharge. Because EPA has proposed a treatment approach in rulemaking, such an approach should be considered a reasonable alternative that should be evaluated for purposes of the Antidegradation Implementation Procedure.

The proposed ELGs rely on a chemical treatment process to precipitate dissolved solids. The “physical chemical treatment” considered in the AAA is not, based on the alternative description, consistent with the ELG process of chemical precipitation/coprecipitation employing the combination of hydroxide precipitation, iron coprecipitation, and sulfide precipitation.

EPA has proposed chemical precipitation as the technology basis for establishing Best Available Technology (BAT) limitations to control pollutants discharged in CRL.²¹ After evaluating the factors specified in Clean Water Act section 304(b)(2)(B), EPA has proposed that this technology is available, is economically achievable, and has acceptable non-water quality environmental impacts. Specifically, the system serving as the BAT technology basis employs equalization, hydroxide and organosulfide precipitation, iron coprecipitation, and removal of suspended and precipitated solids.

Treatment via chemical precipitation would make reasonable further progress toward the Act’s goal of eliminating the discharge of all pollutants, as the limitations based on this technology

¹⁸ “Biden-Harris Administration Proposes Stronger Limits on Water Pollution from Power Plants,” U.S. EPA (Mar. 8, 2023), available at <https://www.epa.gov/newsreleases/biden-harris-administration-proposes-stronger-limits-water-pollution-power-plants>; *see* E.A. Crunden, “EPA proposes ‘strongest ever’ limits on coal plant discharges,” E&E News Greenwire (Mar. 8, 2023), available at <https://www.eenews.net/articles/epa-proposes-strongest-ever-limits-on-coal-plant-discharges/>.

¹⁹ “Supplemental Effluent Limitations Guidelines and Standards for the Steam Electric Power Generating Point Source Category,” 88 Fed. Reg. 18824 (Mar. 29, 2023) (“Proposed ELG Rules”).

²⁰ AIP at 4.

²¹ Proposed ELG Rules, 88 Fed. Reg. at 18848.

would eliminate substantial amounts of arsenic, mercury, and other toxic pollutants from CRL discharges by the steam electric industry.

The analysis of “physical chemical treatment” in the AAA focused on the potential sludge produced by its alternative version of chemical treatment and the need to treat nitrate, rather than other contaminants. MidAmerican concluded that the chemical physical treatment process “is impractical from an engineering perspective” because “treatment does not appear to be required.”²² MidAmerican did not address the fact that chemical precipitation could yield less-degrading alternatives for toxic pollutants like mercury, despite those being available for many years.²³

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. Pumping the leachate to the Missouri River neither prevents nor lessens the degradation, and as discussed below, has not been justified.

III. The AAA Cannot Ignore 2016 Through 2020 Data.

The identified pollutants of concern (POCs) include TSS, pH, and dissolved metals.²⁴ The newly proposed ELGs include limits for arsenic and mercury in combustion residual leachate. Sampling data for leachate prior to reaching the Leachate Pond in 2021 and 2022 indicate the leachate contains less than 8 micrograms per liter of arsenic.²⁵ However, sample results in 2016-2020 showed arsenic consistently above the proposed ELG, as shown in Table 1 below.

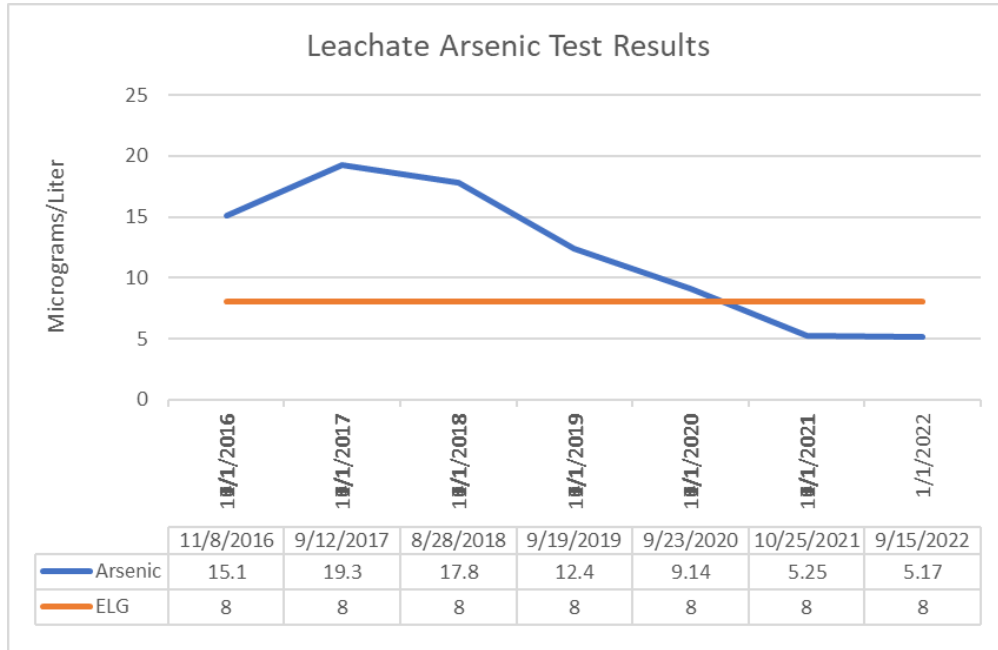
²² AAA at 5.

²³ See, e.g., “Treatment Technologies For Mercury in Soil, Waste, and Water,” U.S. EPA (Aug. 2007), available at https://www.epa.gov/sites/default/files/2015-08/documents/treat_tech_mercury_542r07003.pdf.

²⁴ AAA at 6.

²⁵ *Id.*

Table 1. Arsenic concentrations over time.



The AAA did not incorporate the monitoring data for the 2016 through 2020 time period. The AAA does not discuss any operational changes or sampling changes during this timeframe that would explain the significant decrease in arsenic concentrations. Similar significant decreases in other toxic metals and constituents were observed in 2021 and 2022 as compared to the 2016 through 2020 time period. IEC recommends that the AAA address the monitoring data for the entire timeframe, not just the 2021 and 2022 time period, and explain the substantial decrease in arsenic concentrations.

As discussed in the proposed ELG, the proposed BAT employs equalization, hydroxide and organosulfide precipitation, iron coprecipitation, and removal of suspended and precipitated solids. Given the disparity in sampling results, IEC calculated the potential quantity of toxics and pollutants using the maximum concentrations experienced over the 2016 through 2022 timeframe. Table 2 below shows the potential annual quantity of toxics and pollutants that could be discharged into the Missouri based on the selected alternative, according to the data provided in the AAA.

Table 2. Potential Annual Discharge Mass by Pollutant.

Based on 3,000,000 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

Analyte	mg/l	Liters/year	mg		lbs
Aluminum	0.372	11,356,235	4,224,519	2.2046E-06	9.313376
Antimony	0.00152	11,356,235	17,261	2.2046E-06	0.038055
Arsenic	0.0193	11,356,235	219,175	2.2046E-06	0.483194
Barium	0.157	11,356,235	1,782,929	2.2046E-06	3.930645
Boron	6.6	11,356,235	74,951,151	2.2046E-06	165.2373
Cadmium	0.00548	11,356,235	62,232	2.2046E-06	0.137197
Calcium	427	11,356,235	4,849,112,345	2.2046E-06	10690.35
Chromium	0.792	11,356,235	8,994,138	2.2046E-06	19.82848
Cobalt	0.00528	11,356,235	59,961	2.2046E-06	0.13219
Lead	0.0029	11,356,235	32,933	2.2046E-06	0.072604
Lithium	0.0134	11,356,235	152,174	2.2046E-06	0.335482
Magnesium	26.1	11,356,235	296,397,734	2.2046E-06	653.4384
Manganese	0.00849	11,356,235	96,414	2.2046E-06	0.212555
Molybdenum	1.53	11,356,235	17,375,040	2.2046E-06	38.30501
Nickel	0.0567	11,356,235	643,899	2.2046E-06	1.419539
Potassium	46.9	11,356,235	532,607,422	2.2046E-06	1174.186
Selenium	0.425	11,356,235	4,826,400	2.2046E-06	10.64028
Sodium	917	11,356,235	10,413,667,495	2.2046E-06	22957.97
Strontium	5.9	11,356,235	67,001,787	2.2046E-06	147.7121
Titanium	0.0258	11,356,235	292,991	2.2046E-06	0.645928
Uranium	0.00722	11,356,235	81,992	2.2046E-06	0.18076
Vanadium	0.0538	11,356,235	610,965	2.2046E-06	1.346934
Zinc	0.013	11,356,235	147,631	2.2046E-06	0.325467
Mercury	0.00000717	11,356,235	81	2.2046E-06	0.00018
Nitrite as N	0.0344	11,356,235	390,654	2.2046E-06	0.861237
Nitrate as N	33	11,356,235	374,755,755	2.2046E-06	826.1865
NO3+NO2 as N	33	11,356,235	374,755,755	2.2046E-06	826.1865
Chloride	735	11,356,235	8,346,832,725	2.2046E-06	18401.43
Sulfate	1970	11,356,235	22,371,782,950	2.2046E-06	49320.83
Flouride	14.6	11,356,235	165,801,031	2.2046E-06	365.525
Total N	49.4	11,356,235	560,998,009	2.2046E-06	1236.776
Cyanide	0.0145	11,356,235	164,665	2.2046E-06	0.363021
TKN	16.4	11,356,235	186,242,254	2.2046E-06	410.5897
TOC	7.97	11,356,235	90,509,193	2.2046E-06	199.5366
TSS	37	11,356,235	420,180,695	2.2046E-06	926.3304
BOD	8.33	11,356,235	94,597,438	2.2046E-06	208.5495
COD	82.2	11,356,235	933,482,517	2.2046E-06	2057.956
TDS	2420	11,356,235	27,482,088,700	2.2046E-06	60587.01

IV. MidAmerican Inappropriately Dismissed the Non-Discharging Alternative.

The AAA states that the existing zero-discharge approach is “not a viable long-term practice,” but does not justify that conclusion. In addition to the inadequacy of the social and economic analysis discussed below, MidAmerican has not explained why the zero-discharge alternative is infeasible when the supporting document in the AAA concludes the opposite.

The analysis, produced in 2020, discusses the amount of leachate pumped to the pond and the effect of the evaporators. The mechanical evaporators were able to remove 1.2 million gallons.²⁶ It further states that the evaporators could be modified “to allow greater operational up-time,” which would result in greater evaporation. The analysis concluded that drift of evaporator droplets could be managed with proper consideration of wind and weather. The analysis recommends that “the mechanical evaporators be incorporated into the long-term leachate management approach for the Neal North Monofill.”²⁷

As shown in Table 1.1 of the AAA, reproduced here, the typical volume of leachate pumped to the pond could be substantially less than the volume assessed as of 2020:

Year	Gallons Leachate Pumped to Leachate Pond 1
2019	4,570,313
2020	2,465,745
2021	1,634,504
2022	722, 251

The AAA discounts the conclusions of the analysis provided in Appendix A. It simply concludes “Operational experience over multiple seasons indicates it is impractical to maintain the Leachate Pond with acceptable freeboard levels long-term in a zero-discharge scenario.” It does not provide any explanation of why the freeboard cannot be maintained when the mechanical evaporators could remove 75% of the leachate pumped to Pond 1 in 2020-2022, based on the rates of the 2019 pilot (3 x 1.2 million gallons of 4,822,500 gallons). In combination with leachate applied for dust control and the natural evaporative loss, the long-term water balance may not require much, if any, additional removal or treatment.

We note that MidAmerican should limit operation of the mechanical evaporators to times when the droplets will not drift onto nearby areas. Operating in windy conditions could result in discharges of pollutants and could create a plume of pollution around the site. If properly operated, any potential drift would amount to far less volume and pollution than the anticipated discharge. While drift is localized, the Missouri River can convey pollutants downstream to vulnerable areas. With proper management and oversight to limit drift, the AAA should have considered this a viable alternative.

V. 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.”²⁸ The DNR has explained that this importance addresses the “social and

²⁶ AAA Appendix A at 3.

²⁷ *Id.*

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

economic benefits to the community that will occur from any activity resulting in a new or expanded discharge.”²⁹

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. Rather than address the social or economic importance, the AAA identifies the “affected entities” as the Neal North facility, with “no other entities” affected.³⁰

The analysis conflates operating the Neal 3 generating unit with the operation of the landfill. It notes that “reliable operation of the Neal North facility is necessary for the social and economic viability of the region,” but does not provide any explanation for how that relates to the water degradation at issue in the analysis.³¹ The AAA indirectly implies that without the ability to directly discharge to the Missouri River, the operation of the Neal power plant and the 125 jobs associated with it would be in peril.³² Given that Neal 3 operates without the discharge to the Missouri River now, the analysis fails to establish *any* important economic or social development that would allow for a lowering of water quality.

The AAA should have identified the affected local communities, including the Sioux City area, which is the metropolitan area near the facility. We further note that the Omaha Tribe of Nebraska and the Winnebago Tribe of Nebraska are downstream from the proposed discharge. The AAA did not identify any of these communities or assess impacts to them.

The AAA argues that the direct discharge costs substantially less than the Base Pollution Control Alternative of zero-discharge ponds and trucking to the POTW, as well as other alternatives.³³ The AAA does not provide context for any of these prices. The 2021 operational costs for Neal North were more than \$36 million³⁴ – far more than any of the alternatives being considered, even over their 20-year lifespans. There is a possibility for retirement of Neal 3 within the 20 year window³⁵ that makes MidAmerican’s selection of direct discharge even more problematic as it relies on upfront capital costs that would be incurred regardless of retirement while alternatives such as trucking discharge to POTW would no longer incur costs when the facility retires. This possibility needs to be considered and addressed when comparing costs, benefits, and impacts of alternatives.

At best, the AAA relies on an implication that anything other than the selected alternative of directly polluting the Missouri River would tip the scale of the economics of the plant and require it to shut down. While there is no evidence in the analysis to support MidAmerican’s purported benefit, if the economics of the Neal plant are so tenuous that continuing the current practice of trucking discharge to the POTW is no longer an economically viable alternative, there

²⁹ AIP at 2.

³⁰ AAA at 7.

³¹ *Id.*

³² *Id.*

³³ *Id.* at 7-8.

³⁴ MidAmerican FERC Form 1 (2021).

³⁵ The book-life retirement scenario in MidAmerican’s own Zero Emission study identified Neal 3 for retirement in 2035. RPU-2022-0001, Zero Emissions Study, at 39 (filed Feb. 17, 2023).

may be larger issues with operation of the plant that merit consideration. Because the AAA did not identify any legitimate social or economic benefits from the degradation, no degradation is allowed by law.

VI. The AAA Cannot Ignore Ancillary Water Quality and Environmental Justice Benefits of Treatment.

In addition to its failure to account for social and economic benefits, the AAA did not fully account for other benefits of proper water quality treatment, including the impact of mercury discharges and the environmental justice impacts from the discharge.

Although it identified mercury as a pollutant, the AAA did not evaluate the impact mercury discharges would have on the fish consumption advisories for the Missouri River in the state of Missouri.³⁶ Missouri's fish consumption advisory noted that mining and burning fossil fuels accounts for a substantial portion of mercury in the environment.³⁷ Because mercury is bioaccumulative, its impacts on fish can be greater downstream.

In its proposal to revise the 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.

As part of establishing the ELGs, EPA evaluated the following criteria to rank communities:³⁸

- The community has both demographic (minority and low income) indicators and at least one environmental indicator above the 50th percentile nationally or has all environmental indicators and at least one demographic indicator above the 50th percentile nationally;
- The community has two or more demographic and/or environmental indicators above the 80th percentile nationally;
- The community has one or more demographic and/or environmental indicators above the 90th percentile nationally; or
- The community has one or more demographic and/or environmental indicators above the 95th percentile nationally.

Tier 3 communities meet one of the above criteria, Tier 2 communities meet two or three of the above criteria, and Tier 1 communities meet all four of the above criteria.

³⁶ "2020 MISSOURI FISH ADVISORY: A Guide to Eating Missouri Fish," Missouri Department of Health & Senior Services, at 2, last visited Apr. 11, 2023, available at <https://health.mo.gov/living/environment/fishadvisory/pdf/fishadvisory.pdf>.

³⁷ *Id.* at 16.

³⁸ 88 Fed. Reg. at 18879.

EPA’s Environmental Justice Screening tool, EJSCREEN,³⁹ indicates the community where Neal North is located has potentially significant environmental justice issues. Neal North is near Sioux City, which EJSCREEN can capture by evaluating the 20-mile radius around the facility. As shown below, the affected community is above the 50th percentile for nearly every demographic indicator (people of color, low-income, unemployment rate, limited English speaking, less than high school education, and children under age five) as well as numerous environmental indicators (ozone, traffic proximity, lead paint, RMP facility proximity, and underground storage tanks). Also, it is above the 80th percentile for RMP facility proximity nationally, and above the 80th percentile in the state for ozone.

EJSscreen Report (Version 2.11)
20 miles Ring Centered at 42.318084,-96.367538, IOWA, EPA Region 7
Approximate Population: 133,763
Input Area (sq. miles): 1256.38
(The study area contains 1 blockgroup(s) with zero population.)

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
Particulate Matter 2.5 EJ index	39	34
Ozone EJ index	92	66
Diesel Particulate Matter EJ index*	81	52
Air Toxics Cancer Risk EJ index*	90	33
Air Toxics Respiratory HI EJ index*	66	22
Traffic Proximity EJ index	75	56
Lead Paint EJ index	82	71
Superfund Proximity EJ index	75	37
RMP Facility Proximity EJ index	80	69
Hazardous Waste Proximity EJ index	82	54
Underground Storage Tanks EJ index	78	63
Wastewater Discharge EJ index	55	36

Sites reporting to EPA	
	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	4

³⁹ Available at <https://ejscreen.epa.gov/mapper/> (last visited April 10, 2023).

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Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	7.47	8.22	7	8.67	21
Ozone (ppb)	42.9	41.8	89	42.5	56
Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.185	0.165	66	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	20	21	0	28	<50th
Air Toxics Respiratory HI*	0.21	0.24	65	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	330	390	72	760	57
Lead Paint (% Pre-1960 Housing)	0.47	0.4	49	0.27	71
Superfund Proximity (site count/km distance)	0.025	0.094	44	0.13	24
RMP Facility Proximity (facility count/km distance)	1.3	1.2	65	0.77	82
Hazardous Waste Proximity (facility count/km distance)	0.57	0.45	72	2.2	46
Underground Storage Tanks (count/km ²)	2.5	1.9	74	3.9	63
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00018	0.29	50	12	35
Socioeconomic Indicators					
Demographic Index	33%	22%	82	35%	55
Supplemental Demographic Index	15%	12%	74	15%	61
People of Color	34%	15%	88	40%	54
Low Income	32%	28%	62	30%	56
Unemployment Rate	5%	4%	70	5%	57
Limited English Speaking Households	5%	2%	88	5%	76
Less Than High School Education	13%	8%	82	12%	67
Under Age 5	7%	6%	68	6%	70
Over Age 64	14%	17%	35	16%	46
Low Life Expectancy	20%	19%	59	20%	52

Selected Variables	State Percentile	USA Percentile
Supplemental Indexes		
Particulate Matter 2.5 Supplemental Index	27	31
Ozone Supplemental Index	91	69
Diesel Particulate Matter Supplemental Index*	78	56
Air Toxics Cancer Risk Supplemental Index*	0	31
Air Toxics Respiratory HI Supplemental Index*	63	18
Traffic Proximity Supplemental Index	71	61
Lead Paint Supplemental Index	75	74
Superfund Proximity Supplemental Index	66	34
RMP Facility Proximity Supplemental Index	74	75
Hazardous Waste Proximity Supplemental Index	78	58
Underground Storage Tanks Supplemental Index	72	66
Wastewater Discharge Supplemental Index	44	33

Accordingly, we recommend that MidAmerican consider the environmental justice issues associated with Neal North as a part of the antidegradation analysis.

VII. Conclusion

We encourage MidAmerican to revise the antidegradation analysis to reflect the proposed BAT for combustion residual leachate from the Neal North monofill, consider all relevant water sampling data, properly address the social and economic benefit analysis, and consider the ancillary benefits to the water quality and environmental justice issues. In the alternative, MidAmerican should continue the zero-discharge mode of operation making necessary adjustments to ensure adequate freeboard is maintained.

Thank you for the opportunity to comment. If you have questions or we can clarify these comments further, please feel free to contact us.

Sincerely,

/s/ Steve Guyer

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