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March 16, 2023

Matthew Johnson
Iowa Department of Natural Resources
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Email: matthew.johnson@dnr.iowa.gov

RE: Comments on Draft Regional Haze Plan

Dear Mr. Johnson:

The Iowa Environmental Council (IEC) offers the following comments on the Iowa State Implementation Plan for Regional Haze Second Implementation Period (2019-2028). 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 quality across the state, and they hike, recreate, and enjoy the outdoors in Iowa and beyond.

In reviewing the Iowa draft State Implementation Plan for the Regional Haze Second Implementation Period, IEC finds the 50% threshold to be arbitrary resulting in a draft SIP that fails to meaningfully reduce the contributions to visibility impairment. The 50% threshold is inconsistent with other states, and the SIP effectively ignored the comments from the National Park Service to include Neal South and Neal North. We encourage DNR to expand the SIP to include Neal South and Neal North not only to address significant contributions to regional haze in the Badlands National Park and Wind Cave Park, but to consider the ancillary benefits to the ambient air quality and addressing environmental justice issues.

I. DNR Relied on an Arbitrary Threshold for Consideration.

Congress declared a national goal of preventing and remedying “any existing, impairment of visibility in mandatory class I Federal areas which impairment results from manmade air pollution.”¹ This “cooperative-federalism approach to regulate air quality” requires that states create and adopt a state implementation plan (SIP) and that the EPA assures the state’s SIP make

¹ 42 U.S.C § 7491(a)(1).

“reasonable progress toward meeting the national goal.”² Therefore, Iowa DNR has the responsibility to adopt a SIP which will “provide for implementation, maintenance, and enforcement” of any primary or secondary air pollutant within the state under the Clean Air Act.³ In doing so, EPA clarified in a July 8, 2021 memorandum, the expectation is for “states to undertake a rigorous reasonable progress analyses that identify further opportunities to advance the national visibility goal consistent with the statutory and regulatory requirements.”⁴ EPA further clarified that:

“Source selection is a critical step in states’ analytical processes. All subsequent determinations of what constitutes reasonable progress flow from states’ initial decisions regarding the universe of pollutants and sources they will consider for the second planning period. States cannot reasonably determine that they are making reasonable progress if they have not adequately considered the contributors to visibility impairment. Thus, while states have discretion to reasonably select sources, this analysis should be designed and conducted to ensure that source selection results in a set of pollutants and sources the evaluation of which has the potential to *meaningfully reduce their contributions to visibility impairment.*”⁵ (*emphasis added*)

DNR chose a 50% threshold for source selection by reasoning that because EPA’s final guidance on August 20, 2019, did not contain a threshold recommendation, an Iowa source needs to be in the top 50% of all sources impacting a class I area to be considered for further review. EPA clarified in the July 8, 2021 memorandum:

“While reviewing draft regional haze SIPs, EPA has found that some rely on source selection methodologies that result in selection of the largest regional contributors to visibility impairment across multiple states. While this approach may be permissible in some cases, it may not be reasonable for a particular state if it results in few or no sources in that state being selected. Under the RHR, each state has an obligation to submit a long-term strategy that addresses the regional haze visibility impairment resulting from emissions from within that state. This obligation is not discharged simply because another state’s contributions to visibility impairment may be greater.”

A state should “focus on the in-state contribution to visibility impairment” and should “not decline to select sources based on the fact that there are larger out-of-state contributors.”⁶ DNR is doing exactly that by pointing at nine facilities outside Iowa responsible “for the majority (top 50%) of the AOI Impacts” rather than considering the ability of Iowa sources to meaningfully reduce contributions to visibility impairment at Badlands National Park and Wind Cave.⁷

² See *U.S. Magnesium, LLC v. EPA*, 690 F.3d 1157, 1159 (10th Cir. 2012); 42 U.S.C. § 7491(b)(2).

³ 42 U.S.C. § 7410(a)(1)

⁴ Peter Tsirigotis, U.S. EPA, “Clarifications Regarding Regional Haze State Implementation Plans for the Second Implementation Period (July 8, 2021) (“EPA Clarification”).

⁵ *Id.* at 3.

⁶ *Id.*

⁷ Iowa DNR SIP Round 2 Draft at 64 (DNR responses to comments).

Iowa DNR's 50% cumulative impact threshold percentage is arbitrary, by definition is not a majority, and undermines the purpose of the act. By choosing 50% as the threshold, DNR purposely excludes George Neal North (GNN) and George Neal South (GNS) from its four-factor analysis, despite the George Neal facilities ranking in the top 60% or above at Badlands National Park, Wind Cave and Isle Royale National Park, and 75% Voyageurs National Park.⁸

Although DNR's justification for choosing 50% as a threshold was because EPA's final guidance did not have any threshold recommendations, DNR acknowledged that EPA's previous proposed threshold was 80%.⁹ DNR is aware that its 30% reduction from EPA's proposed threshold excluded identifying additional sources that impacted visibility but believes that its 50% threshold is reasonable and satisfies the requirements of the Regional Haze Rule (RHR).¹⁰

Just satisfying the requirements of RHR is not enough to meet the national goals of reducing visibility nor the purpose of this rule. DNR is determining the best available retrofit technology (BART) on the absolute mandatory minimum on powerplants generating capacity greater than 750 megawatts (MW) – Louisa Generating Station (LGS) (811.9 MW) and Walter Scott Energy Center (WSEC) (725.8 MW WSEC-3 and 922.5 MW for WSEC-4) - required under 42 U.S.C § 7491(b).¹¹ DNR's defense would be justified if § 7491 limited BART to only 750 MW powerplants like LGS and WSEC, but it does not. On the contrary, a “state plan must include BART determination for any plant that ‘may reasonably be anticipated to cause or contribute to any impairment of visibility in such area.’”¹² However, by establishing the threshold at 50%, DNR ignores the George Neal facilities, whose generating capacity is below 750 MW but whose high SO2 emission rates contribute to impairment of visibility in Class I areas.¹³

a. Uniform Rate of Progress goals do not justify ignoring cost-effective actions.

Whether a particular visibility impact or change is “meaningful” should be assessed in the context of the individual state's contribution to visibility impairment, rather than total impairment at a Class I area. As stated in the RHR preamble: Regional haze is visibility impairment that is caused by the emission of air pollutants from numerous sources located over a wide geographic area. At any given Class I area, hundreds or even thousands of individual sources may contribute to regional haze. Thus, it would not be appropriate for a state to reject a control measure (or measures) because its effect on the RPG is subjectively assessed as not “meaningful.”¹⁴

⁸ Iowa DNR SIP Round 2 Draft at 63 (NPS Comment 1).

⁹ EPA final guidance dated Aug 20, 2019; 80% Threshold draft dated July 2016.

¹⁰ Iowa DNR SIP Round 2 Draft at 64 (DNR responses to comments).

¹¹ 42 U.S.C § 7491(b) (“In the case of a fossil-fuel fired generating powerplant having a total generating capacity in excess of 750 megawatts, the emission limitations required under this paragraph shall be determined pursuant to guidelines”).

¹² *Oklahoma v. U.S. E.P.A.*, 723 F.3d 1201, 1208 (10th Cir. 2013); 42 U.S.C § 7491(b)(2).

¹³ Iowa DNR SIP Round 2 Draft, Appendix F, at 11.

¹⁴ “Protection of Visibility: Amendments to Requirements for State Plans,” 82 Fed. Reg. 3078, 3093 (Jan. 10, 2017).

DNR noted that LADCO’s regional modeling results predict that the average visibility conditions on the 20% most impaired days in 2028 will be better than the uniform rate of progress (URP) in each of the five downwind Class I areas linked to Iowa. However, as EPA clarified in the July 8, 2021 memorandum, the “second planning period regional haze SIPs that conclude that additional controls, including potentially cost-effective and otherwise reasonable controls, are not needed because all of the Class I areas in the state (and those out-of-state areas affected by emissions from the state) are below their uniform rates of progress (URPs) cannot be used as a “safe harbor.” The 2017 RHR preamble and the August 2019 Guidance clearly state that it is not appropriate to use the URP in this way. The URP is a planning metric used to gauge the amount of progress made thus far and the amount left to make. It is not based on consideration of the four statutory factors and, therefore, cannot answer the question of whether the amount of progress made in any particular implementation period is “reasonable progress.”

b. Other states are using comprehensive and meaningful thresholds.

Iowa should follow the lead of other states by setting a threshold that screens additional sources and is consistent with EPA guidance. For example:

1. Michigan relied on emissions divided by distance (commonly known as a Q/d analysis) to identify sources in the state that were subject to review for possible 4-factor analysis. LADCO did the analysis for Michigan and the other LADCO states. Because of the large number of sources in the state, Michigan screened out those not significantly impacting the two monitors by only looking at sources with a Q/D value of 4 tons per year per kilometer (tpy/km) and greater. This cutoff represents approximately 80 percent of emissions from Michigan sources impacting Michigan’s two Class 1 areas.¹⁵
2. Minnesota used a Q/d analysis to screen emission source impacts at Class I areas. The Q/d Analysis uses a facility’s emissions (Q) in tons per year divided by the distance in kilometers (d) from the Class I areas. Ultimately, Minnesota selected sources that represent roughly the top 85% of visibility impacts via Q/d from Minnesota stationary sources that may impact visibility based on the screening analysis for Boundary Waters and Voyageurs. This top 85% threshold represented those facilities that had a Q/d value of roughly 4.6.¹⁶
3. The established Q/d threshold used by most WESTAR-WRAP states is a value of 10. South Dakota initially screened for all sources affecting its two Class I Areas, Wind Cave National Park and Badlands National Park, using a total Q/d threshold of 10 or greater. This analysis amounted to only one South Dakota source meeting the criteria. Therefore, South Dakota opted to

¹⁵ Michigan Regional Haze draft SIP for Second Period, May 2021, available at <https://www.michigan.gov/egle/-/media/Project/Websites/egle/Documents/Reports/AQD/state-implementation-plan/2021-05-sip-submittal-regional-haze.pdf>.

¹⁶ Minnesota’s State Implementation Plan for Regional Haze, December 20, 2022, available at <https://www.pca.state.mn.us/sites/default/files/aq-sip2-19.pdf>.

consider a more stringent Q/d threshold of 2 for all its facilities. According to the analysis, with the “d” portion of the equation determined by measuring the distance from the location of the point source to the nearest boundary of any given Class I Area, the following percentages of Q/d values have been screened into the analysis at the Badlands: 91.74% of the total Q/d values, 89.66% of the NO_x Q/d values, 97.57% of the SO₂ Q/d values, and 79.09% of the PM₁₀ Q/d values. Regarding the Wind Cave National Park, the following percentages of Q/d values have been screened into the analysis: 88.32% of the total Q/d values, 82.48% of the NO_x Q/d values, 98.00% of the SO₂ Q/d values, and 82.99% of the PM₁₀ Q/d values.

South Dakota found that several states negatively affect visibility at Badlands National Park due to emissions of ammonium nitrate more than South Dakota’s own sources, including Colorado, North Dakota, Wyoming, and the combined category of all non-WRAP states which includes South Dakota’s other neighboring states of Iowa and Nebraska. These other states combined produce significantly more visibility impairment at Badlands National Park than South Dakota’s own sources do. These include Washington, New Mexico, Colorado, Montana, Wyoming, North Dakota, and the combined category of all non-WRAP states which includes South Dakota’s other neighboring states of Iowa and Nebraska. These other states combined produce significantly more visibility impairment at Badlands National Park than South Dakota’s own sources do. **Specifically, South Dakota found that Neal South and Neal North contributed more to the visibility impairment at Badlands National Park than some in-state sources.**¹⁷

II. DNR’s Decision to Exclude the Neal Units Is Inconsistent with the RHR.

DNR’s approach for screening is inconsistent with other states as discussed above, and fails to evaluate additional Iowa sources for the four-factor analysis. It also fails to address the comments by the Federal Land Managers documenting the inadequacy of DNR’s method.

a. Meaningful reduction requires including the Neal Units.

DNR concluded that only LGS and WSEC warranted selection for four-factor analysis. DNR used the linkages Iowa considered during the first implementation to inform the review of contribution data for the second implementation period. Based solely on this logic, DNR used the LADCO CAMx PSAT results showing Iowa’s projected 2028 anthropogenic contributions to visibility impairment in the LADCO Class I areas (those in Minnesota and Michigan) ranges from 3.0% (Voyageurs) to 3.9% (Isle Royale). DNR then used consistency with the first implementation period and its SIP-approved conclusions as a basis to only look at sources where Iowa’s contributions fall within or exceed that range. This method ignores significant sources,

¹⁷ South Dakota Regional Haze Draft SIP (Mar. 19, 2022), at 112-113, available at <https://danr.sd.gov/Environment/AirQuality/RegionalHaze/docs/SIP%20draft%20revised%20since%20sending%20to%20FLMs.pdf>.

namely Neal North and Neal South.

As noted by DNR, “one potentially reasonable approach to select sources for four-factor analysis is to identify all sources with an individual impact greater than a given percentage contribution threshold, such as 1%”. Had DNR evaluated sources based on a 1% contribution, the LADCO modeling shows that Neal South (1.97%) and Neal North (1.38%) meaningfully contribute to the visibility impairment at the Badlands National Park and should have been selected for the four-factor analysis. DNR must remedy its failure to even evaluate these facilities in the SIP.

b. DNR ignored the Federal Land Managers.

In developing any implementation plan (or plan revision) or progress report, the State must include a description of how it addressed any comments provided by the Federal Land Managers.¹⁸ A state receiving a request to select a particular source(s) should either perform a four-factor analysis on the source(s) or provide a well-reasoned explanation as to why it is choosing not to do so.¹⁹

The National Park Service (NPS) clearly stated that their “review finds that the George Neal North and George Neal South facilities both have significant impacts on visibility in NPS Class I areas (see technical feedback for details). We recommend that you consider broadening the Iowa source selection criteria and conduct four-factor analysis of SO₂ and nitrogen oxide (NO_x) emission reduction opportunities for the George Neal North and George Neal South facilities.”²⁰

Although DNR met the statutory obligation of providing the Federal Land Manager with an opportunity for input, it appears that DNR did not use the information and recommendations provided by the Federal Land Manager to meaningfully inform the State's decisions on the long-term strategy. DNR clearly did not perform a four-factor analysis for Neal South and Neal North, and it is clear from the responsiveness summary that DNR chose to summarily dismiss the FLM comments, failing to provide a well-reasoned explanation of why it chose not to do a four-factor analysis. By relying on that the linkages back to the first implementation period and the arbitrary 50% threshold was sufficient to demonstrate meaningful progress, DNR inappropriately and arbitrarily concludes there is no compelling reason to expand the source selection process to include any other sources.

As discussed above in Section I, each state has an obligation to submit a long-term strategy that addresses the regional haze visibility impairment resulting from emissions from within that state. EPA has specified that this obligation is not discharged simply because another state's contributions to visibility impairment may be greater.²¹ Yet that is exactly what DNR is doing in refusing to include Neal South and Neal North as a part of the State Implementation Plan for Regional Haze Second Implementation Period. Instead of providing a well-reasoned explanation for excluding Neal South and Neal North, DNR provided an explanation of flawed-reasoning.

¹⁸ See 40 CFR 51.308(i)(3)

¹⁹ See 40 CFR 51.308(f)(2)(ii), (i)(2)-(3)

²⁰ Iowa DNR SIP Round 2 Draft, Appendix F, at 6.

²¹ EPA Clarification dated July 8, 2021.

In the DNR responsiveness summary, DNR states that “(u)nlike situations where visibility impairment is attributable to a relatively large number of sources (such as at ISLE), the AOI results indicate that visibility impacts at BADL and WICA are dominated by a small number of facilities, and none are in Iowa.”²² This is clearly contrary to the South Dakota Regional Haze SIP that concluded that emissions from Washington, New Mexico, Colorado, Montana, Wyoming, North Dakota and all non-WRAP states which includes the neighboring states of Iowa and Nebraska, produce significantly more visibility impairment at Badlands National Park than South Dakota’s own sources do. **Specifically, South Dakota found that Neal South and Neal North contributed more to the visibility impairment at Badlands National Park than some in-state sources.**²³

III. There Are Ancillary Air Quality And Environmental Justice Benefits Beyond Haze.

EPA noted in the July 8, 2021, memorandum that “(t)here exist many opportunities for states to leverage both ongoing and upcoming emission reductions under other CAA programs; however, we also expect states to undertake rigorous reasonable progress analyses that identify further opportunities to advance the national visibility goal consistent with the statutory and regulatory requirements.” The converse is also true. Cost effective measures implemented as a part of addressing regional haze will improve ambient air quality. The NPS calculated that potential SO₂ emissions reductions of 2,639 tons/year at George Neal North and 3,271 tons/year at George Neal South could cost effectively be removed at \$280/ton. This would be in addition to the SO₂ reductions at both LGS and WSEC-3 of 9,688 tons per year at a cost of less than \$300/ton. The SO₂ removal from the Neal plants would be a 61% increase in SO₂ removal as compared to SO₂ removed as a part of the draft Iowa Regional Haze SIP, and at a lower cost per ton. A more inclusive regional haze SIP has the ancillary benefit of improving ambient air quality. Additionally, it cost effectively undertakes emission reductions that may allow the state to remain in attainment as other ambient air standards are lowered, including PM 2.5.

Like several executive orders, EPA’s July 8, 2021, memorandum encouraged states to be aware of where sources of visibility impairing air pollutants are located and impacts they may have on environmental justice communities. Using EPA’s [Environmental Justice Screening tool](#) (as shown below), the census tract where Neal South and Neal North are located has potentially significant environmental justice issues. The census tract is at or above the 90th percentile in the state for ozone and traffic, as well as factors not directly related to air quality such as superfund proximity. Demographically, it is at the 95th percentile in the state for socioeconomic indicators, including at least the 90th percentile for people of color, limited English speaking households, and less than high school education. The surrounding community has similarly high environmental justice indicators. DNR should consider the environmental justice issues associated with Neal South and Neal North when evaluating whether to include the facilities in its screening.

²² Iowa DNR SIP Round 2 Draft at 64.

²³ South Dakota Regional Haze Draft SIP (Mar. 19, 2022), at 112-113, available at <https://danr.sd.gov/Environment/AirQuality/RegionalHaze/docs/SIP%20draft%20revised%20since%20sending%20to%20FLMs.pdf>.



EJScreen Report (Version 2.1)

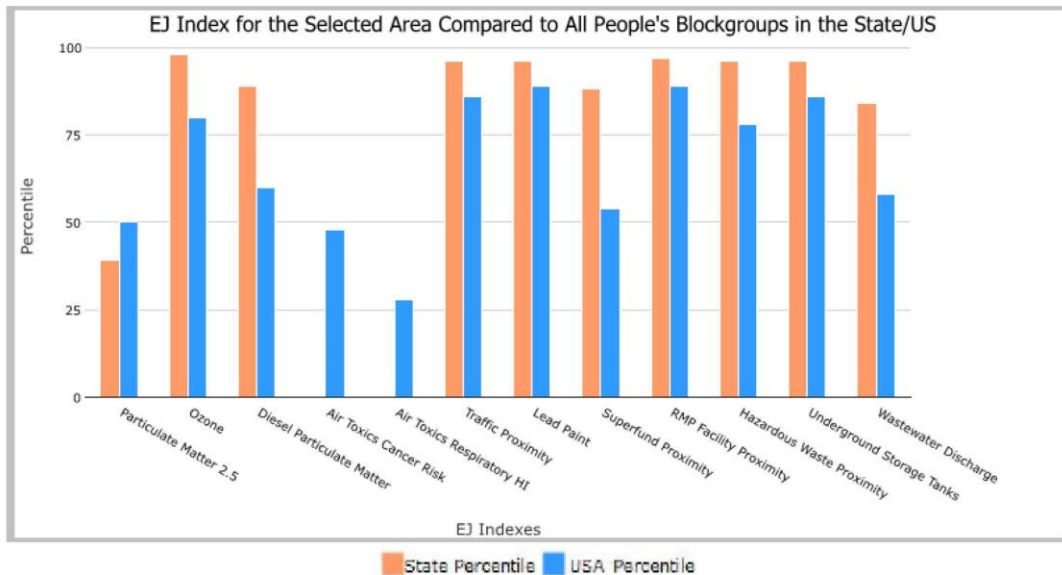


Tract: 19193003600, IOWA, EPA Region 7

Approximate Population: 3,145

Input Area (sq. miles): 14.52

Selected Variables	State Percentile	USA Percentile
Environmental Justice Indexes		
EJ Index for Particulate Matter 2.5	39	50
EJ Index for Ozone	98	80
EJ Index for Diesel Particulate Matter*	89	60
EJ Index for Air Toxics Cancer Risk*	0	48
EJ Index for Air Toxics Respiratory HI*	0	28
EJ Index for Traffic Proximity	96	86
EJ Index for Lead Paint	96	89
EJ Index for Superfund Proximity	88	54
EJ Index for RMP Facility Proximity	97	89
EJ Index for Hazardous Waste Proximity	96	78
EJ Index for Underground Storage Tanks	96	86
EJ Index for Wastewater Discharge	84	58



This report shows the values for environmental and demographic indicators and EJSCREEN indexes. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

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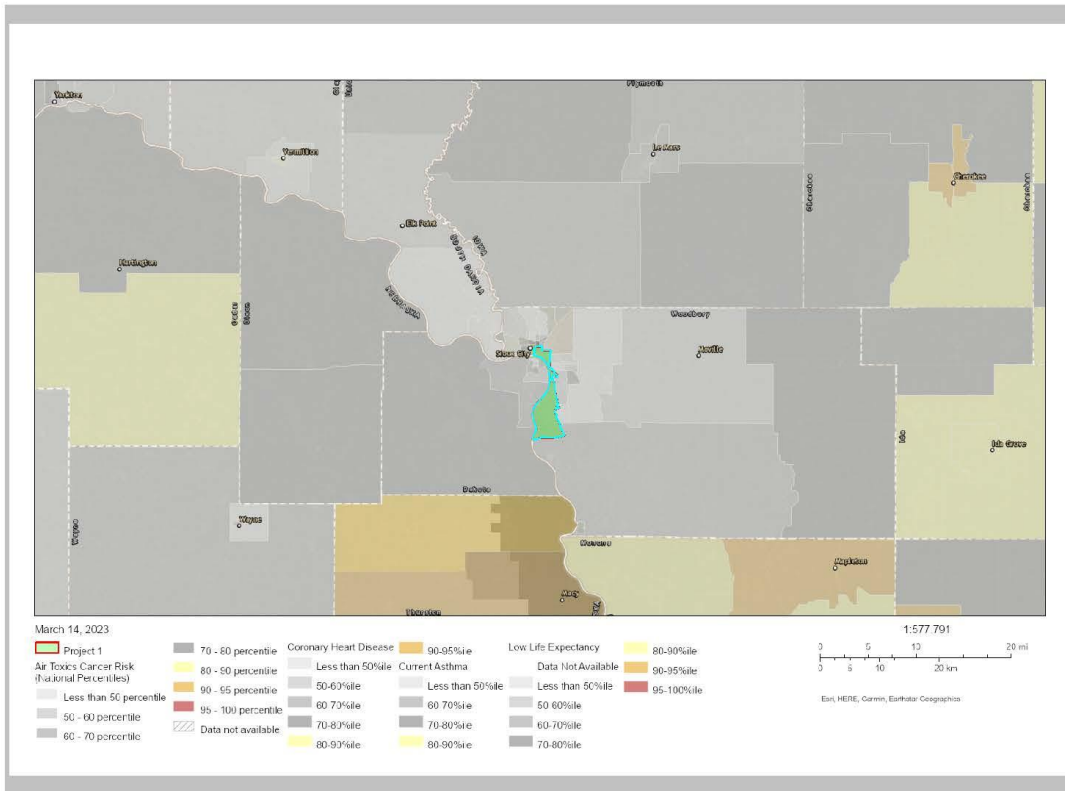
EJScreen Report (Version 2.1)



Tract: 19193003600, IOWA, EPA Region 7

Approximate Population: 3,145

Input Area (sq. miles): 14.52



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	2



EJScreen Report (Version 2.1)
 Tract: 19193003600, IOWA, EPA Region 7
Approximate Population: 3,145
Input Area (sq. miles): 14.52



Selected Variables	Value	State Avg.	%ile in State	USA Avg.	%ile in USA
Pollution and Sources					
Particulate Matter 2.5 ($\mu\text{g}/\text{m}^3$)	7.56	8.22	11	8.67	23
Ozone (ppb)	42.8	41.8	88	42.5	55
Diesel Particulate Matter* ($\mu\text{g}/\text{m}^3$)	0.164	0.165	59	0.294	<50th
Air Toxics Cancer Risk* (lifetime risk per million)	20	21	0	28	<50th
Air Toxics Respiratory HI*	0.2	0.24	0	0.36	<50th
Traffic Proximity (daily traffic count/distance to road)	1200	390	93	760	84
Lead Paint (% Pre-1960 Housing)	0.65	0.4	76	0.27	83
Superfund Proximity (site count/km distance)	0.026	0.094	46	0.13	24
RMP Facility Proximity (facility count/km distance)	2.8	1.2	89	0.77	94
Hazardous Waste Proximity (facility count/km distance)	1.3	0.45	90	2.2	60
Underground Storage Tanks (count/km ²)	8.7	1.9	95	3.9	87
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00013	0.29	47	12	33
Socioeconomic Indicators					
Demographic Index	53%	22%	95	35%	77
People of Color	51%	15%	95	40%	68
Low Income	51%	28%	88	30%	81
Unemployment Rate	5%	4%	74	5%	62
Limited English Speaking Households	20%	2%	98	5%	93
Less Than High School Education	21%	8%	92	12%	82
Under Age 5	7%	6%	66	6%	68
Over Age 64	7%	17%	11	16%	17

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

For additional information, see: www.epa.gov/environmentaljustice

EJScreen is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJScreen documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJScreen outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

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IV. Conclusion

We encourage Iowa DNR to expand the SIP to include analysis of Neal South and Neal North not only to address significant contributions to regional haze, but to consider the ancillary benefits to the ambient air quality and addressing environmental justice issues.

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

Steve Guyer
Energy Program Manager
Iowa Environmental Council

/s/ Michael Schmidt

Michael Schmidt
Staff Attorney
Iowa Environmental Council

Cc: DeAndré Singletary, EPA Region 7 Air and Radiation Division
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