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Ref: 8ARD-PM

Mr. Bryce Bird, Director

Division of Air Quality

P.O. Box 144820

Salt Lake City, Utah 84114-4820

Re: Draft Title V Permit: US Magnesium LLC – Rowley Plant

Title V Reopening for Cause by EPA

Project Number: OPP0107160016

Dear Mr. **Bird:**

Thank you for the opportunity to provide public comments on the draft title V permit (Draft Permit) issued in response to the May 11, 2022, Reopening Order, for the US Magnesium LLC-Rowley Plant (US Magnesium, or the Source) located at 15 Miles North Exit 77, I-80, Rowley, UT 84704. Our office reviewed the Draft Permit as well as responses from the Utah Department of Environmental Quality’s Division of Air Quality (Utah DAQ).

The U.S. Environmental Protection Agency (EPA), Region 8, sent the May 11, 2022, Reopening Order after determining that existing emissions are above the allowable chlorine limits required for compliance with 40 CFR 63.9880 (Subpart TTTTT) and the operating permit conditions allowing these emissions do not meet the requirements of Subpart TTTTT for chlorine.

The Draft Permit addresses certain aspects of the changes requested by the EPA. However, the Draft Permit still contains deficiencies which must be addressed to ensure compliance with Subpart TTTTT. Additionally, the EPA published the results of its residual risk and technology review (RTR) for the National Emission Standards for the Hazardous Air Pollutants (NESHAP) for Primary Magnesium Refining in 2021 (86 FR 1390). Those results demonstrate that there are potential elevated acute risks associated with the chlorine reduction burner (CRB) controls on the melt/reactor. The Draft Permit continues to present conditions that could be interpreted to allow these potential elevated acute risk events.

EPA Region 8 has completed a review of the Draft Permit and the Utah DAQ’s response to the Reopening Order. We offer the following comments and questions to help the Utah DAQ ensure consistency with the Utah State Implementation Plan (SIP) and federal Clean Air Act (CAA) requirements and to ensure that the Final Permit adequately addressed the issues raised in the Reopening Order.

Thank you again for the opportunity to comment on this proposed permit action. If you have any

questions, please contact me at (720) 391-7006 or your staff may contact Adam Eisele, at (303) 312-6246 or at Eisele.Adam@epa.gov.

Sincerely,



Adrienne Sandoval

Director

Air and Radiation Division

Enclosure

**EPA Region 8’s Comments on the Draft Permit for US Magnesium**

The EPA values the Utah DAQ’s efforts to thoroughly review and consider revisions to the Draft Permit, as well as their efforts to work with the Source to improve the understanding of the operations and emissions at the Source. The Draft Permit includes multiple revisions to clarify recordkeeping and reporting requirements, including those required by Subpart TTTTT. Appendix A has also been revised to clarify and correct emissions estimates.

**Removal of Source Wide Chlorine Limit Exemption for Scheduled Maintenance Activities Through Permit Streamlining**

In the EPA’s Reopening Order, the Agency requested the revision to permit condition II.B.1.a to remove the exemption for maintenance activities from the 3,300 ton per rolling 12-month period. The EPA also requested that the permit be revised to clarify that the less stringent source wide limits do not assure compliance with the continuous chlorine emission limits in Table 4 to Subpart TTTTT of part 63 (100 lb/hr limit for each melt/reactor stack and 26 lb/hr for each launder off-gas stack). The Agency’s longstanding interpretation of the Subpart TTTTT regulation remains that “By-passing the control device for maintenance activities is not considered a startup, shutdown, or malfunction event.” (see 68 FR 58617)

The Utah DAQ has stated in their draft response to the Reopening Order that:

“When writing the MACT TTTTT in 2003, EPA was fully aware of the 7,500 ton maintenance provision in the approval order and in the Title V permit.  The MACT alludes to it by requiring a maintenance plan to be on site and available for inspection. That maintenance plan contains the provisions for a shutdown and rebuild of the CRB with allowed excess emissions of 7,500 tons every 60 month period.  Additionally, the maintenance is referred to separately from the Startup Shutdown and Malfunction (SSM) provisions.  The intention of the language written in 2003 was based on the existing Title V permit at the time which included the 7,500 ton maintenance provisions at the 60 month time frame, had EPA’s intention been anything else it would have been addressed during the writing of the MACT in 2003 or addressed at some point in the past 20 years by revising MACT Subpart TTTTT.”

The EPA disagrees with the Utah DAQ’s interpretation of the rulemaking process and the Utah DAQ’s interpretation of Subpart TTTTT. The general compliance requirements (40 CFR 63.9910) require continuous compliance with the emission limitations, work practice standards, and operation and maintenance requirements within Subpart TTTTT at all times, except during periods of SSM as defined in 40 CFR 63.2. The operation and maintenance requirements within Subpart TTTTT as well as the work practice standards do not provide exemptions from the emission limitations. The operation and maintenance requirements and work practice standards must be met in addition to the emission limitations.

If the EPA had intended to specifically allow for a 7,500-ton scheduled maintenance provision for chlorine gas emissions, the Agency would have promulgated such a provision during the rulemakings that established the Maximum Achievable Control Technology (MACT) standard. Instead, the MACT standard requires continuous compliance at all times except for during periods of startup, shutdown, and malfunction as defined in 40 CFR 63.2, which the Agency specifically clarified to not include bypass of air pollution controls. The Agency also would have promulgated monitoring, recordkeeping, and reporting provisions for a scheduled maintenance exemption had one been envisioned. Again, the Agency’s longstanding interpretation of the Subpart TTTTT regulation remains that “By-passing the control device for maintenance activities is not considered a startup, shutdown, or malfunction event.” (see 68 FR 58617).

The Utah DAQ’s statement that the EPA’s intention when promulgating subpart TTTTT was to allude to the allowance of an exemption by requiring a maintenance plan to be on site and available for inspection is inconsistent with the administrative record and statements by the EPA that bypassing control devices for maintenance activities are not considered SSM events. The requirement for a maintenance plan to be on site and available for inspection does not exempt a source from emission limitations. Furthermore, if the title V permit had intended to exempt emissions during scheduled maintenance from applicable requirements such as the requirement within Subpart TTTTT for the melt/reactor stack to limit emissions to one hundred pounds of chlorine per hour, then the title V permit would have included a statement explaining the purpose for such an exemption as well as the basis for the determination of non-applicability.

Recommendation: The EPA continues to recommend removal of the scheduled maintenance exemption by streamlining of the language within the source wide limit that exempts chlorine gas emissions during scheduled maintenance because that exemption for maintenance activities became obsolete upon promulgation of the regulations in Subpart TTTTT, which require continuous compliance with more stringent emission limits. The maintenance exemption currently listed within the Draft Permit is no longer relevant for the purposes of the title V permitting program.

The EPA requests the Utah DAQ clarify the permit to only include the emission limits for chlorine which apply to the Source, which would include removing the language in permit condition II.B.1.a that exempts emissions from scheduled maintenance being included in the source wide limit. Furthermore, with the removal of the exemption from permit condition II.B.1.a, permit condition II.B.1.b can similarly be streamlined out of the Draft Permit. Additionally, the Utah DAQ may wish to consider the effectiveness of a 3,300 tons of chlorine per year limit when the pounds per hour limits at the Source restrict emissions to less than 600 tons of chlorine per year.

If the Utah DAQ believes that the Draft Permit will assure compliance with Subpart TTTTT and all other requirements, then the administrative record should be supplemented to include an explanation of the information the Utah DAQ relied on to reach this conclusion. Additionally, if the Utah DAQ believes that the maintenance exemption within condition II.B.1.a does serve a purpose, then the administrative record should be supplemented to explain the purpose of the permit condition, as well as explain how the permit condition assures compliance with the emission limitations and compliance requirements of Subpart TTTTT.

**Continuous Compliance with 40 CFR 63 Subpart TTTTT**

The EPA also requested that the Utah DAQ consider revising permit condition II.B.8.a to clarify that the one hundred pounds of chlorine per hour limit applies to the melt/reactor stack at all times, except for periods of SSM. The title V permit must assure compliance. The Utah DAQ disagreed with the EPA’s requested revision, stating that:

“UDAQ disagrees with EPA’s comment. The emission limit for condition II.B.8.a is an underlying requirement in Approval Order (AO) DAQE-AN0107160050-20 and 40 CFR 63 Subpart TTTTT (Table 1). Neither the AO nor 40 CFR 63 Subpart TTTTT requires that this emission limit applies at all times”

The EPA disagrees with the Utah DAQ’s statement that 40 CFR Subpart TTTTT does not require the emission limits to apply at all times. 40 CFR Subpart TTTTT states that:

“§ 63.9910 What are my general requirements for complying with this subpart?

You must be in compliance with the emission limitations, work practice standards, and operation and maintenance requirements in this subpart at all times, except during periods of startup, shutdown, and malfunction as defined in § 63.2.”

The regulation clearly states that compliance with Subpart TTTTT requires compliance with the emission limitations at all times. As discussed above, the only exemption to the emission limits is for periods of SSM, which does not include scheduled maintenance.

The Utah DAQ is correct that the New Source Review pre-construction permit, DAQE-AN107160050-20, does not include the “at all times,” language within the applicable limit. However, title V permits are required to assure compliance with all applicable requirements. As such, the title V permit must assure compliance with the requirements within Subpart TTTTT, including being in compliance with the emission limitations, workplace standards, and operation and maintenance requirements at all times, as well as assuring compliance with the emission limits within New Source Review permits. The EPA recommended in the Reopening Order that the Utah DAQ modify the language of permit condition II.B.8.a in order to ensure that the title V permit assures compliance. The EPA continues to recommend modifying the language of permit condition II.B.8.a.

The EPA issued a request for information (RFI), pursuant to Section 114 of the Clean Air Act, to the Source regarding the facility and records that identify periods wherein the CRB was bypassed while the melt/reactor stack was operational since January 1, 2016. The EPA is aware that, according to the Source’s response to the RFI, the facility bypassed the CRB while the melt/reactor stack remained operational for 795 of the 2,404 days between January 1, 2016, and July 31, 2022, with 2,358 hours of melt/reactor system stack operation while the CRB was bypassed. During the 2,358 hours of bypass, the Facility emitted 9,373 tons of chlorine with an average emission rate of 7,950 pounds per hour. (see Notice of Violation, Docket No. Caa-08-2023-0003)

Given the frequent nature of bypass events and rate of chlorine routinely emitted at the Source, the EPA does not believe the current Draft Permit adequately ensures compliance with the applicable limits for chlorine emissions in Subpart TTTTT, including the applicable requirement incorporated into condition II.B.8.a.

Approved state programs have flexibility in their approach to develop procedures and method for determining compliance. The EPA considers the removal of the exemptions for scheduled maintenance within permit conditions II.B.1.a and II.B.1b, and the revision of permit condition II.B.8.a to be the most direct action to address the EPA’s concerns with continuous compliance. The EPA also asked the Utah DAQ to consider additional monitoring and testing to demonstrate compliance.

The EPA suggested in the Reopening Order that the Utah DAQ consider revising the continuous parameter monitoring requirements in condition II.B.7.a to require that the CRB temperature be monitored at all times, instead of only when the CRB is operating. The revision was suggested because the EPA does not believe the facility can simultaneously operate and comply with the emission limits in Subpart TTTTT, 100 pounds per hour of chlorine for the melt/reactor stack, without the CRB in operation. If Utah DAQ believes that the Source is able to comply with the emission limits in Subpart TTTTT, then Utah DAQ should clearly describe the basis for this continuous compliance demonstration within the administrative record for the Draft Permit.

The EPA also suggested that the Utah DAQ consider requiring stack testing of the melt/reactor stack during scheduled maintenance to determine if the Source is in compliance with the applicable emission limit in Subpart TTTTT. Stack testing is often required to be performed during periods under which a facility is operating at a high production rate, as the high production rate will typically correlate to higher emission rates. Based on EPA’s understanding of operations at the Source, the highest emission rates will occur when the CRB is offline. Therefore, stack testing may be needed during maintenance to assure that the facility is within permitted emission limits at all times, and after the completion of CRB maintenance to ensure the air pollution controls are operating as intended. Similarly, the EPA suggested the Utah DAQ consider continuous emission monitoring, which need not be required if alternative methods are available that provide sufficiently reliable and timely information for determining compliance.

Recommendation: The EPA continues to recommend streamlining of the language within the source wide limit that exempts chlorine gas emissions during scheduled maintenance because that exemption for maintenance activities became obsolete upon promulgation of the regulations in Subpart TTTTT, which require continuous compliance with more stringent emission limits. Additionally, the Utah DAQ should revise permit condition II.B.8.a to clarify that the one hundred pounds of chlorine per hour emission limit from Subpart TTTTT applies to the melt/reactor stack at all times, except for SSM.

The EPA also continues to recommend that the Utah DAQ utilize additional testing and monitoring to assure the Source is complying with all applicable emission limitations, including those in Subpart TTTTT that apply at all times, except for SSM. Specifically, the Utah DAQ should consider the use of stack testing to verify emission levels at the melt/reactor stack during scheduled maintenance, and upon completion of maintenance of the CRB. Additional continuous parameter monitoring, such as monitoring of the temperature parameter of the CRB, would also better assure compliance. The Utah DAQ should also consider the utility of continuous emission monitoring if other testing and monitoring is not sufficient to assure compliance with the chlorine emission limits in Subpart TTTTT, which apply at all times except for SSM.

The EPA also requests that the Utah DAQ supplement the administrative record to further document the determination of compliance of the melt/reactor stack with Subpart TTTTT emission limitations at all times, except for SSM. This documentation should include an explanation of emissions from the melt/reactor during all modes of operation and maintenance activities and how the Source complies with the Subpart TTTTT emission limits at those times.

**Revisions to the Chlorine Plant Bypass Scrubber**

The Utah DAQ clarified that the chlorine plant bypass scrubber (CPBS) exhausts to the melt/reactor stack and would be treated no differently than the packed tower absorber, east and west tower scrubbers, and high venturi scrubber, in which that are no unit specific applicable requirements. Additionally, the Utah DAQ clarified that the Source does not bypass the chlorine plant or other air pollution control units to route chlorine gas to the CPBS during normal operation.

The Utah DAQ stated that the CPBS is identified in the Draft Permit because it is also used to capture emissions during the CRB maintenance period. The Utah DAQ states that the suggestion for stack testing would not be beneficial as the current method for determining chlorine emissions is a very conservative approach that may be overestimating emissions. However, the CPBS is described as having a limited operational capacity (8 hours) and there is no consideration in the mass balances within Appendix A for operation of the CPBS for longer periods of maintenance.

Recommendation: The EPA recommends that the Utah DAQ should review whether it is appropriate to use the 95% agreed upon efficiency for the CPBS during extended maintenance. Appendix A currently assumes the CPBS is able to operate for all hours, H, in which the CRB is not operating while the Draft Permit states that the CPBS has the capability to operate for eight hours.

**Appendix A Corrections**

The EPA has reviewed Appendix A and suggests the Utah DAQ correct the references to a 99 percent destruction removal efficiency for the CRB as the agreed upon destruction removal efficiency for the CRB is 98 percent. Additionally, the Utah DAQ should clarify how the Q term, chlorine consumed in HCl production, is accounted for in the mass balance. The term appears in Appendix A within a mass balance for the flow rate to the CRB on page 83 but is only defined beneath the figure on page 86 and does not appear within the figure on page 86.

Recommendation: The EPA recommends that Utah DAQ review and correct the destruction removal efficiency calculations in Appendix A and clarify the Q term.

**Miscellaneous Corrections**

The EPA also suggests that the Utah DAQ review the underlying basis for condition II.B.27.c. It appears that 40 CFR 63 Subpart DDDDDD, National Emission Standards for Hazardous Air Pollutants for Polyvinyl Chloride and Copolymers Production Area Sources, may have been referenced instead of Subpart DDDDD, National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters.

Recommendation: The EPA recommends that the Utah DAQ review and correct the reference to Subpart DDDDDD to read as Subpart DDDDD.

**Public Health Concerns**

The EPA is committed to the assessment and consideration of the public health impacts of permits on communities. The EPA welcomes the Utah DAQ’s partnership in this important effort.

The EPA evaluated the potential acute risks to the public based on estimated worst case scenarios, which included the periodic rebuilding and rehabilitative maintenance events of the CRB, as a part of a residual risk and technology review (86 FR 1390). The EPA is also aware of a recent study which indicates that emissions from the Source could significantly contribute to air quality issues in the Salt Lake City metro area[[1]](#footnote-2). The application of the emissions limits in Subpart TTTTT for the melt/reactor stack at all times would address potential acute exposure risks identified to occur during periodic rebuilding and maintenance of the CRB and would minimize the Source’s potential contributions to air quality issues in the Salt Lake City metro area.

Recommendations: Because the US Magnesium facility emissions have the potential to negatively impact public health, EPA recommends Utah DAQ address the EPA’s concerns with practical enforceability and continuous compliance raised within the other comments in this letter, and to include any additional monitoring or other practically enforceable continuous compliance measures to assure that the Source is meeting its permitted limits, including those emission limits found within Subpart TTTTT, and following industry best practices.

1. <https://csl.noaa.gov/news/2023/368_0125.html> [↑](#footnote-ref-2)