



Katie Hobbs
Governor

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY



Karen Peters
Director

COMPREHENSIVE REQUEST FOR ADDITIONAL INFORMATION

VIA EMAIL

May 2, 2023

Javier Del Rio
Copper World, Inc.
5285 East Williams Circle, Suite 2010
Tucson, Arizona 85711
javier.delrio@hudbayminerals.com

Re: Copper World, Inc. Air Quality Permit Application No. 96659
Plant Name: Copper World Project

Dear Mr. Del Rio:

The Arizona Department of Environmental Quality (ADEQ) received the above-referenced application on October 21, 2022. ADEQ's review of this application is subject to the requirements of the licensing time frames ("LTF") statute under Arizona Revised Statutes ("A.R.S.") § 41-1072 through § 41-1079 and the LTF rules under Arizona Administrative Code ("A.A.C.") R18-1-501 through R18-1-525. ADEQ is reviewing this application within the Substantive Review time frame and makes this Comprehensive Request for Additional Information under A.R.S. § 41-1075(A). This Request suspends the time frame for your application as of the date of this Request. To complete this application and resume the time frame you must provide the following:

1. Additional Modeling
 - a. An ambient air impact assessment for Year 8 of the Copper World Project mining plan to account for the maximum mining rate.
 - b. Revised emission calculation methodology for 24-hour and 1-hour ambient air impact assessments to account for the maximum distance traveled by haul trucks over these periods rather than distances based on the annual weighted average.
 - c. Ambient air impact assessments for Years 8 and 14 using on-site meteorological data collected for the Rosemont Copper Project to evaluate the impact of the subset operations east of the ridgeline of the Santa Rita Mountains.
 - d. Sensitivity analyses evaluating the impact of the following meteorological variables on model results: ambient air temperature, cloud cover, and surface characteristics (albedo, bowen ratio and surface roughness).
 - e. Revised modeling methodologies for tailings storage facilities and waste rock facilities, taking into account the volume source exclusion zones.
2. Metallic Mineral Processing Emission Factors
 - a. Justification for the use of emission factors for High-Moisture Content Ore rather than Low-Moisture Content Ore from AP-42 Ch. 11.24 "Metallic Minerals Processing."

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- b. Justification for the use of the drop equation in AP-42 Ch. 13.2.4 “Aggregate Handling and Storage Piles” for material transfer points rather than the emission factor for material transfer from AP-42 Ch. 11.24 “Metallic Minerals Processing.”
 - c. Justification for the rock breakers and associated material transfer points controlled by fogging systems being evaluated as non-fugitive emissions for potential to emit and permit applicability purposes.
 3. Electrowinning Tankhouse Emission Factors
 - a. Revised emissions calculations accounting for sulfuric acid mist emissions from the electrowinning tankhouse as particulate matter for permit applicability purposes.
 - b. Justification for the use of 99% capture and control efficiency with electrowinning tankhouse test data for the electrowinning tankhouse scrubbers to evaluate emissions rather than using the manufacturer’s guarantee for grain loading and the exhaust rate.
 - c. Confirmation that the electrowinning tankhouse will not operate fuel burning equipment to facilitate the electrowinning process.
 4. Sulfuric Acid Plant Emission Factors
 - a. Process information supporting the use of the provided emission rates for the sulfuric acid plant.
 - b. Evaluation of fugitive emissions associated with the unpaved roadway emissions resulting from the delivery of molten sulfur to the sulfuric acid plant and/or sale of sulfuric acid.
 - c. Confirmation that flotation of sulfur recovered from the leaching of sulfide ore will produce sufficient sulfur to achieve necessary throughput for the sulfuric acid plant without the supplemental delivery of molten sulfur.
 - d. Confirmation that the sulfuric acid plant will not operate fuel burning equipment for start-up or auxiliary heat.
 5. Hazardous Air Pollutants (HAPs)
 - a. Justification for the use of PM₁₀ rather than total particulate matter for evaluating HAP emissions in the ‘Emissions Summary’ tab.
 - b. Confirmation as to whether HAP emissions from the solvent extraction process are being double counted in the ‘Emissions Summary’ tab.
 6. Fugitive Emissions
 - a. Justification for the use of the emission rate for nitrogen oxides from the study titled “NO_x emissions from blasting operations in open-cut coal mining” rather than the use of emission factors from AP-42 Ch. 13.3 “Explosives Detonation.”
 - b. Justification for the use of two approaches for evaluation of emissions from wind erosion: (1) FDEMI for stockpiles, and (2) AP-42 Ch 13.2.5 “Industrial Wind Erosion” for tailings storage facilities.
 - c. Comprehensive dust control plan to justify the proposed haul road emission control efficiencies.
 - d. Comprehensive tailings management plan for the control of fugitive dust from tailings storage facilities.

Please provide the additional information within 45 days of this Request. As an alternative to providing ADEQ with all of the additional information identified above, you may respond to this Request within 15 days with a Notice of Intent to Rely on the Application Components as Submitted in accordance with A.A.C. R18-1-205(B) and R18-1-520.

If you have any questions, please contact Jeff Christensen at (602) 771-0001 or Christensen.Jeff@azdeq.gov or me at (602) 771-4527 or Vaidyanathan.Balaji@azdeq.gov.

Sincerely,

DocuSigned by:

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Balaji Vaidyanathan, Manager
Facility Emissions Control Value Stream
Air Quality Division