
**BEFORE THE EXECUTIVE DIRECTOR OF THE
UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY**

In the Matter of:

US Magnesium LLC;
UDAQ Notice of Violation and Order to
Comply August 27, 2015
(No. 2015082701)

FINDINGS OF FACT, CONCLUSIONS OF
LAW, AND RECOMMENDED ORDER

JUNE 2, 2017

RICHARD K. RATHBUN,
ADMINISTRATIVE LAW JUDGE

Pursuant to Utah Code Ann. § 19-1-301 the ALJ submits the following Findings of Fact, Conclusions of Law, and Recommended Order to the Executive Director. This is an enforcement matter relating to US Magnesium's Title V Operating Permit 4500030002, issued December 20, 2013 (last revised February 6, 2015) (Permit).

The Director of the Utah Division of Air Quality filed a Motion for Summary Judgment on April 14, 2017. In response to that motion, US Magnesium LLC (USM) and the Director agreed to resolve the Motion for Summary Judgment, and thus this matter, in their Stipulation to Resolve Administrative Proceedings (Stipulation). I therefore recommend that the Executive Director approve the parties' Stipulation to Resolve Administrative Proceedings, attached hereto as Exhibit A, and dismiss these administrative proceedings with prejudice. A proposed Order of Dismissal for use by the Executive Director is attached hereto as Exhibit B.

Findings of Fact

1. USM operates a primary magnesium production facility in Rowley, Tooele County, Utah, producing magnesium metal from the waters of the Great Salt Lake.

2. The plant uses a series of solar evaporation ponds to extract brine solution from the lake water, which is then purified and turned into powder in spray dryers. The plant has three identical spray dryers (01, 02, and 03 Spray Dryers) that evaporate the brine to form dry magnesium powder. The powder is stored in the 05/06 Magnesium Chloride Storage Bins equipped with a baghouse and a scrubber.
3. The powder produced in the spray dryers is melted and further purified in the Melt Reactor before going through an electrolytic process that separates magnesium metal from chlorine. Fugitive emissions of chlorine in the Melt Reactor building are captured by the Emergency Off-Gas System.
4. The metal is then refined and/or alloyed and cast into molds. The chlorine from the Melt Reactor is combusted with natural gas in the chlorine reduction burner and converted into hydrochloric acid (HCl). The HCl is removed from the gas stream through a scrubber train. The chlorine that is generated at the electrolytic cells is collected and piped to the chlorine plant where it is liquefied for reuse or sale.
5. The plant also has a number of diesel engines located in the solar evaporation ponds, and a Fire Pump diesel engine for a surge pump for fire protection.
6. USM's production process results in emissions of PM₁₀ (coarse dust particulate matter 2.5 to 10 micrometers in diameter), nitrogen oxide (NO_x), Volatile Organic Compounds (VOCs), and Hazardous Air Pollutants (HAPs)—chlorine and hydrogen chloride/hydrochloric acid (HCl).
7. USM is a major source of PM₁₀, NO_x, VOCs, and chlorine and HCl HAPs.

8. DAQ has issued the Permit to regulate USM because it is a major source of these emissions.
9. USM must comply “with all conditions of the operating permit.”
10. Specifically, the Permit states that USM must comply with the following conditions:
 - a) perform initial carbon monoxide (CO) emissions testing of the Solar Pond Diesel Engines (Engines), *see* Permit 24, Condition II.B.2.d.1;
 - b) test the 05/06 Magnesium Chloride Storage Bins Scrubber (05/06 Scrubber) HCl emissions annually, *see id.* 25, Condition II.B.3.b.1;
 - c) test Spray Dryers 01, 02, 03 (Spray Dryers) HCl and total suspended particulates (TSP) emissions annually, *see id.* 29-31, Conditions II.B.5.a.1 and b.1;
 - d) test the Melt Reactor chlorine emissions annually and dioxin/furan emissions every 30 months, *see id.* 36-37, Condition II.B.8.a.1; *id.* 39-40, Condition II.B.8.d.1;
 - e) test the Emergency Off Gas Stack (EOG Stack) chlorine, HCl, and TSP emissions every two years, *see id.* 43-46, Conditions II.B.9.c.1, d.1, and e.1;
 - f) certify monthly chlorine emission reports by a responsible official, *see id.* 8, Condition I.K;
 - g) record Fire Pump operating hours, *see id.* 57, Condition II.B.20.a.2;
 - h) include all deviations from the Permit requirements in the Title V six-month monitoring report, *see id.* 11, Condition I.S.2.a;
 - i) promptly notify the Director of any deviations from the Permit conditions, *see id.*, Condition I.S.2.c

- j) submit Title V six-month monitoring reports, *see id.*, Condition I.S.2.a;
- k) comply with 05/06 Scrubber PM₁₀ emission concentration limit of no greater than 0.016 grain/dscf (dry standard cubic foot), *see id.* 26, Condition II.b.3.c;
- l) comply with the Melt Reactor HCl emission limit of no greater than 7.2 lb/hr, *see id.* 37, Condition II.B.8.b; and
- m) comply with the EOG Stack chlorine emission limit of no greater than 26 lb/hr, *see id.* 43, Condition II.B.9.c.

CONCLUSIONS OF LAW

With the dismissal of these administrative proceedings, no issues will remain to be adjudicated. Based on the stipulation of the parties, I make the following conclusions of law:

1. US Magnesium committed the following violations of the Permit:
 - a) failure to test the Engines within 180 days of May 3, 2013;
 - b) failure to test 05/06 Scrubber HCl emissions in 2013 and 2014 (last tested on March 20, 2012);
 - c) failure to test Spray Dryers HCl and TSP emissions in 2013 and 2014 (last tested on March 21, 2012 and March 26, 2012);
 - d) failure to test Melt Reactor chlorine emissions in 2013 and 2014 (last tested on November 14, 2012);
 - e) failure to test Melt Reactor dioxin/furan emissions by September 30, 2014 (last tested on March 20, 2012);
 - f) failure to test EOG Stack chlorine, HCl, and TSP emissions in 2014 (last tested on March 27, 2012);

- g) failure to certify monthly chlorine emission reports by a responsible official prior to December of 2014;
- h) failure to keep record of the Fire Pump hour meter readings prior to November 2014;
- i) failure to report deviations listed in this paragraph (subparagraphs “a” through “h”) above in a Title V six-month monitoring report dated October 2, 2014 that covered the period from April 1, 2014 to September 30, 2014;
- j) failure to submit deviation reports for the violations referenced in subparagraph “i”;
- k) failure to submit a Title V six-month monitoring report for the period covering October 1, 2014 through March 31, 2015;
- l) exceedance of 05/06 Scrubber PM₁₀ emission concentration limit of no greater than 0.016 grain/dscf—the stack test on March 3, 2015 showed that PM₁₀ concentration averaged 0.021 grains/dscf;
- m) exceedance of the Melt Reactor HCl emission limit of no greater than 7.2 lb/hr—the stack test on March 2, 2015 demonstrated 9.9 lb/hr average (DAQ calculation showed 10.1 lb/hr average); and
- n) exceedance of the EOG Stack chlorine emission limit of no greater than 26 lb/hr—the stack test on February 24-27, 2015 demonstrated average of 35.1 lb/hr (DAQ calculation showed 35 lb/hr average).

2. This Final Order is effective and final upon the date executed below and, as reflected in the Stipulation, the parties have waived any right to appeal from this administrative

proceeding. Should the Director (or any officer or entity acting for the State of Utah), file a civil action in district court under Section 19-2-115 of the Utah Code to assess a penalty for the above violations, the Executive Director recognizes that the parties have preserved their right to present all relevant evidence and defenses which are available in such civil action.

RECOMMENDED ORDER

Based on the stipulation of the parties, I recommend that the Executive Director issue an order, approving and incorporating the Stipulated Undisputed Facts and the Stipulated Violations set forth in Exhibit A (the parties' stipulation of May 12, 2017) and dismissing this action with prejudice, in the form of the order attached as Exhibit B.

NOTICE OF OPPORTUNITY TO COMMENT

Parties may file comments to this recommended order of dismissal with the Executive Director of the Department of Environmental Quality within ten business days of issuance, in accordance with the requirements of Utah Admin. Code R 305-7-213(4). Comments shall not exceed 15 pages. A party may file a response to another party's comments, not to exceed five pages, within five business days of the date of the service of the comments.

DATED this 2nd day of June, 2017.

/s/Richard K. Rathbun
Administrative Law Judge

CERTIFICATE OF SERVICE

I certify that on this 2nd day of June 2017, I served by electronic mail a true and correct copy of the foregoing Findings of Fact, Conclusions of Law, and Recommended Order on the following:

Administrative Proceedings Records Officer
Utah Department of Environmental Quality
DEQAPRO@utah.gov

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/s/ Richard K. Rathbun
Administrative Law Judge

**** EXHIBIT A ****

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Attorneys for US Magnesium LLC

**BEFORE THE EXECUTIVE DIRECTOR OF THE
UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY**

In the Matter of:

US Magnesium LLC;
UDAQ Notice of Violation and Order to
Comply August 27, 2015
(No. 2015082701)

**STIPULATION TO RESOLVE
ADMINISTRATIVE PROCEEDINGS**

May 12, 2017

Richard K. Rathbun, Administrative Law
Judge

This is an enforcement matter relating to US Magnesium's Title V Operating Permit 4500030002, issued December 20, 2013 (last revised February 6, 2015) (Permit).

The Director of the Utah Division of Air Quality filed a Motion for Summary Judgment on April 14, 2017. In response to that motion, US Magnesium LLC (USM) and the Director have agreed to resolve the Motion for Summary Judgment, and thus this matter, by stipulating to the following factual and legal findings. Based upon this stipulation, the parties request that Administrative Law Judge Richard K. Rathbun submit the attached proposed Final Order to be executed by the Executive Director. Should the Executive Director make any revisions to the

proposed Final Order, the parties reserve their right to withdraw this Stipulation in whole or in part and to restart this administrative proceeding, with USM being able to withdraw this Stipulation and file a new response to the Motion for Summary Judgment. Should the Executive Director issue the proposed Final Order in the form attached, the parties waive any right to appeal the Executive Director's Final Order and it will become final upon execution.

STIPULATED UNDISPUTED FACTS

1. USM operates a primary magnesium production facility in Rowley, Tooele County, Utah, producing magnesium metal from the waters of the Great Salt Lake.
2. The plant uses a series of solar evaporation ponds to extract brine solution from the lake water, which is then purified and turned into powder in spray dryers. The plant has three identical spray dryers (01, 02, and 03 Spray Dryers) that evaporate the brine to form dry magnesium powder. The powder is stored in the 05/06 Magnesium Chloride Storage Bins equipped with a baghouse and a scrubber.
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4. The metal is then refined and/or alloyed and cast into molds. The chlorine from the Melt Reactor is combusted with natural gas in the chlorine reduction burner and converted into hydrochloric acid (HCl). The HCl is removed from the gas stream through a scrubber train. The chlorine that is generated at the electrolytic cells is collected and piped to the chlorine plant where it is liquefied for reuse or sale.

5. The plant also has a number of diesel engines located in the solar evaporation ponds, and a Fire Pump diesel engine for a surge pump for fire protection.
6. USM's production process results in emissions of PM₁₀ (coarse dust particulate matter 2.5 to 10 micrometers in diameter), nitrogen oxide (NO_x), Volatile Organic Compounds (VOCs), and Hazardous Air Pollutants (HAPs)—chlorine and hydrogen chloride/hydrochloric acid (HCl).
7. USM is a major source of PM₁₀, NO_x, VOCs, and chlorine and HCl HAPs.
8. DAQ has issued the Permit to regulate USM because it is a major source of these emissions.
9. USM must comply “with all conditions of the operating permit.”
10. Specifically, the Permit states that USM must comply with the following conditions:
 - a) perform initial carbon monoxide (CO) emissions testing of the Solar Pond Diesel Engines (Engines), *see* Permit 24, Condition II.B.2.d.1;
 - b) test the 05/06 Magnesium Chloride Storage Bins Scrubber (05/06 Scrubber) HCl emissions annually, *see id.* 25, Condition II.B.3.b.1;
 - c) test Spray Dryers 01, 02, 03 (Spray Dryers) HCl and total suspended particulates (TSP) emissions annually, *see id.* 29-31, Conditions II.B.5.a.1 and b.1;
 - d) test the Melt Reactor chlorine emissions annually and dioxin/furan emissions every 30 months, *see id.* 36-37, Condition II.B.8.a.1; *id.* 39-40, Condition II.B.8.d.1;
 - e) test the Emergency Off Gas Stack (EOG Stack) chlorine, HCl, and TSP emissions every two years, *see id.* 43-46, Conditions II.B.9.c.1, d.1, and e.1;

- f) certify monthly chlorine emission reports by a responsible official, *see id.* 8, Condition I.K;
- g) record Fire Pump operating hours, *see id.* 57, Condition II.B.20.a.2;
- h) include all deviations from the Permit requirements in the Title V six-month monitoring report, *see id.* 11, Condition I.S.2.a;
- i) promptly notify the Director of any deviations from the Permit conditions, *see id.*, Condition I.S.2.c
- j) submit Title V six-month monitoring reports, *see id.*, Condition I.S.2.a;
- k) comply with 05/06 Scrubber PM₁₀ emission concentration limit of no greater than 0.016 grain/dscf (dry standard cubic foot), *see id.* 26, Condition II.b.3.c;
- l) comply with the Melt Reactor HCl emission limit of no greater than 7.2 lb/hr, *see id.* 37, Condition II.B.8.b; and
- m) comply with the EOG Stack chlorine emission limit of no greater than 26 lb/hr, *see id.* 43, Condition II.B.9.c.

STIPULATED VIOLATIONS

1. The parties stipulate to the following violations of the Permit:
 - a) failure to test the Engines within 180 days of May 3, 2013;
 - b) failure to test 05/06 Scrubber HCl emissions in 2013 and 2014 (last tested on March 20, 2012);
 - c) failure to test Spray Dryers HCl and TSP emissions in 2013 and 2014 (last tested on March 21, 2012 and March 26, 2012);

- d) failure to test Melt Reactor chlorine emissions in 2013 and 2014 (last tested on November 14, 2012);
- e) failure to test Melt Reactor dioxin/furan emissions by September 30, 2014 (last tested on March 20, 2012);
- f) failure to test EOG Stack chlorine, HCl, and TSP emissions in 2014 (last tested on March 27, 2012);
- g) failure to certify monthly chlorine emission reports by a responsible official prior to December of 2014;
- h) failure to keep record of the Fire Pump hour meter readings prior to November 2014;
- i) failure to report deviations listed in this paragraph (subparagraphs “a” through “h”) above in a Title V six-month monitoring report dated October 2, 2014 that covered the period from April 1, 2014 to September 30, 2014;
- j) failure to submit deviation reports for the violations referenced in subparagraph “i” above;
- k) failure to submit a Title V six-month monitoring report for the period covering October 1, 2014 through March 31, 2015;
- l) exceedance of 05/06 Scrubber PM₁₀ emission concentration limit of no greater than 0.016 grain/dscf—the stack test on March 3, 2015 showed that PM₁₀ concentration averaged 0.021 grains/dscf;

- m) exceedance of the Melt Reactor HCl emission limit of no greater than 7.2 lb/hr—the stack test on March 2, 2015 demonstrated 9.9 lb/hr average (DAQ calculation showed 10.1 lb/hr average); and
- n) exceedance of the EOG Stack chlorine emission limit of no greater than 26 lb/hr—the stack test on February 24-27, 2015 demonstrated average of 35.1 lb/hr (DAQ calculation showed 35 lb/hr average).

Should the Director (or any officer or entity acting for the State of Utah), file a civil action in district court under Section 19-2-115 of the Utah Code to assess a penalty for the above violations, the parties preserve their right to present all relevant evidence and defenses which are available in such civil action.

DATED May 12, 2017.

/s/ M. Lindsay Ford

M. Lindsay Ford

Michael A. Zody

PARSONS BEHLE & LATIMER

/s/ Christian C. Stephens

Christian C. Stephens

Marina V. Thomas

Assistant Attorneys General

Environment Division

Utah Attorney General's Office

CERTIFICATE OF SERVICE

I hereby certify that on this 12th day of May, 2017, a true and correct copy of the forgoing **STIPULATION TO RESOLVE ADMINISTRATIVE PROCEEDINGS** was filed via e-mail with the following:

Richard K. Rathbun
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/s/ M. Lindsay Ford

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Attorney for US Magnesium LLC

**BEFORE THE EXECUTIVE DIRECTOR OF THE
UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY**

In the Matter of:

US Magnesium LLC;
UDAQ Notice of Violation and Order to
Comply August 27, 2015
(No. 2015082701)

FINAL ORDER OF THE EXECUTIVE
DIRECTOR

[DRAFT--JUNE 2, 2017]

RICHARD K. RATHBUN,
ADMINISTRATIVE LAW JUDGE

Pursuant to Utah Code Ann. § 19-1-301 the ALJ has submitted Findings of Fact, Conclusions of Law, and Recommended Order in the above-captioned adjudicatory proceeding. Under authority of Utah Code Ann. § 19-1-301, I have reviewed the ALJ's Findings of Fact, Conclusions of Law, and Recommended Order (Recommended Order) and the parties' Stipulation to Resolve Administrative Proceedings (Stipulation), approve and adopt the same in full, and hereby ORDER:

1. The Undisputed Facts and Violations set forth in the Stipulation are adopted and incorporated herein by reference;

2. The ALJ's Findings of Fact, Conclusions of Law, and Recommended Order are adopted and incorporated herein by reference;

3. This Final Order is effective and final upon the date executed below and, as reflected in the Stipulation, the parties have waived any right to appeal from this administrative proceeding. Should the Director (or any officer or entity acting for the State of Utah) file a civil action in district court under Section 19-2-115 of the Utah Code to assess a penalty for the above

violations, the parties preserve their right to present all relevant evidence and defenses which are available in such civil action; and

4. These administrative proceedings are dismissed with prejudice.

DATED this ____ day of ____, 2017.

Alan Matheson
Executive Director

CERTIFICATE OF SERVICE

I certify that on this ___ day of _____ 2017, I served by electronic mail a true and correct copy of the foregoing Final Order of the Executive Director on the following:

Administrative Proceedings Records Officer
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Executive Director