

**FACT SHEET AND STATEMENT OF BASIS
AIR PRODUCTS AND CHEMICALS, INC.
RENEWAL PERMIT: DISCHARGE
UPDES PERMIT NUMBER: UT0024210
MINORINDUSTRIAL**

FACILITY CONTACTS

Person Name: Ginger Patrick
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Person Name: Steve Knudsen
Position: Plant Manager
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Facility Name: Air Products and Chemicals, Inc.
Mailing and Facility Address: 745 Frontage Road
Centerville, Utah 84014
Telephone: 801.298.4881
Actual Address: 745 Frontage Road
Centerville, Utah 84014

DESCRIPTION OF FACILITY

Air Products and Chemicals, Inc. (Air Products) liquefies atmospheric gases via compression and cooling processes for industrial, medical and scientific purposes. The resulting liquid gases are oxygen, nitrogen and argon totaling approximately 22 tons per day on average. Air Products is categorized with a Standard Industrial Classification (SIC) code of 2813 for *Industrial Gas Manufacturing (NAICS 325120)*.

Wastewater from Air Products consists of blowdown water from the cooling tower, as well as any storm water runoff from the facility. Both are captured in a single onsite pond that is approximately 75 feet by 45 feet with an average depth of 3 feet. The pond regularly discharges to a storm water culvert which flows to Stone Creek near Centerville, Utah.

SUMMARY OF CHANGES FROM PREVIOUS PERMIT

Air Products believes copper, nickel, zinc and total organic nitrogen are present in the discharge. These parameters will be required to be monitored on a quarterly basis.

In the previous permit, total dissolved solids (TDS) was limited to 2500 mg/L. The basis for this limit could not be confirmed. 40 CFR 122.44(l), Section 402(o)(2), provides that the establishment of less stringent limits may be allowed where new information is available that was not available at the time of permit issuance which would have justified a less stringent effluent limit. There is not an impairment for Stone Creek and therefore monitoring only will be required for TDS for this permit cycle.

The total residual chlorine limit (TRC) is based on the acute TRC water quality standard at end-of-pipe, and is retained from the previous permit. This effluent limit is below the minimum quantification level (ML) of the most common and practical EPA approved TRC methods. The Division has determined the current acceptable ML to be 0.06 mg/L and the method detection limit (MDL) to be 0.02 mg/L when

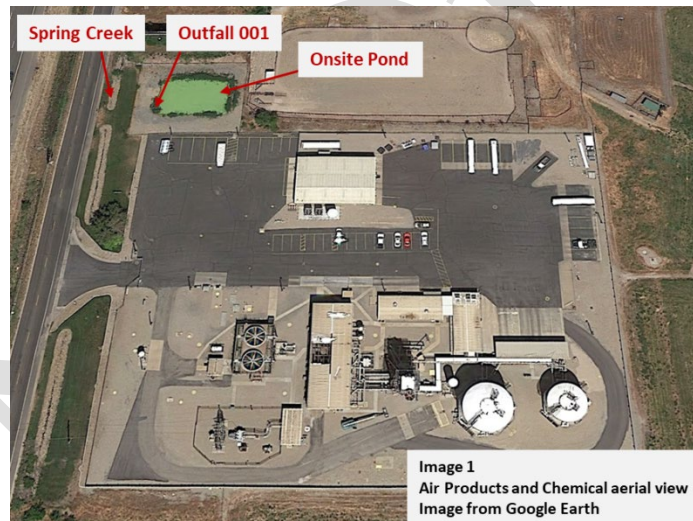
using the DPD colorimetric Method #4500 – CL G. Measured values greater than or equal to the ML of 0.06 mg/l will be considered violations of the permit, and values less than the ML of 0.06 mg/l will be considered to be in compliance with the permit. For purposes of calculating averages and reporting on the Discharge Monitoring Report form, the following will apply:

- 1) analytical values less than 0.02 mg/L shall be considered zero; and
- 2) analytical values less than 0.06 mg/L and equal to or greater than 0.02 mg/L will be recorded as measured.

DESCRIPTION OF DISCHARGE

Air Products has one outfall for discharging wastewater and storm water effluent.

Outfall	Description of Discharge Point
001	Located at latitude 40°54'28" North and longitude 111°53'18" West. Discharging effluent containing both blowdown water from the cooling tower and storm water flows over a v-notch weir, through a grate, into a storm water cement pipe, and then to Stone Creek. <i>Outfall location Image 1</i>



RECEIVING WATERS AND STREAM CLASSIFICATION

The receiving water for Outfall 001 is Stone Creek.

Per UAC R317-2-13.7(b), the designated beneficial uses for Stone Creek and tributaries, from Farmington Bay Waterfowl Management Area to U.S. National Forest Boundary is 2B, 3A and 4.

- | | |
|----------|--|
| Class 2B | Protected for infrequent primary contact recreation. Also protected for secondary contact recreation where there is a low likelihood of ingestion of water or a low degree of bodily contact with the water. Examples include, but are not limited to, wading, hunting, and fishing. |
| Class 3A | Protected for cold water species of game fish and other cold water aquatic life, including the necessary aquatic organisms in their food chain |

Class 4 Protected for agricultural uses including irrigation of crops and stock watering.

BASIS FOR EFFLUENT LIMITATIONS

Limitations on total suspended solids (TSS) and pH are based on current Utah Secondary Treatment Standards, UAC R317-1-3.2. The oil and grease is based on best professional judgment (BPJ). Total residual chlorine is based on the wasteload analysis for the discharge to Stone Creek. Air Products does not discharge sanitary waste through Outfall 001 therefore E.coli is not required to be monitored.

In the previous permit, total dissolved solids (TDS) was limited to 2500 mg/L. The basis for this limit could not be confirmed. 40 CFR 122.44(l), Section 402(o)(2), provides that the establishment of less stringent limits may be allowed where new information is available that was not available at the time of permit issuance which would have justified a less stringent effluent limit. There is not an impairment for Stone Creek and therefore monitoring only will be required for TDS for this permit cycle.

Air Products believes copper, nickel, zinc and total organic nitrogen are present in the discharge. These parameters will be required to be monitored on a quarterly basis.

Attached is a Wasteload Analysis for this discharge into the unnamed irrigation ditch. It has been determined that this discharge will not cause a violation of water quality standards. An Antidegradation Level II review is not required since the Level I review shows that water quality impacts are minimal. The permittee is expected to be able to comply with these limitations.

Parameters of Concern

There were no potential parameters of concern identified for the discharge/receiving water based on a discussion and consultation with the UPDES Permit Writer.

TMDL

Stone Creek from Great Salt Lake to USFS boundary (UT16020102-046_00) is listed as impaired on the 2016 303(d) list for E.coli, pH, copper and temperature.

Reasonable Potential Analysis

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. To complete a RP analysis, more than 10 data points per parameter are needed. Air Products was not required to sample for metal parameters in their previous permit, therefore, analysis data is not available to perform a RP analysis. For this permit cycle, Air Products will be required to conduct at a minimum, annual metal sampling. If additional sampling is performed, it shall be reported to DWQ. Less than 10 data points may affect the RP outcomes which may require additional monitoring in the future.

Table 1				
Parameter	Outfall 001			
	Effluent Limitations^a			
	Maximum Monthly Avg	Maximum Weekly Avg	Daily Minimum	Daily Maximum
TSS, mg/L	25	35	--	--
pH, Standard Units	--	--	6.5	9
TRC, mg/L	0.39	--	--	0.348
Oil & Grease, mg/L	--	--	--	10.0

SELF-MONITORING AND REPORTING REQUIREMENTS

The permit will require reports to be submitted monthly, quarterly, and annually, as applicable, on Discharge Monitoring Report (DMR) in NetDMR unless the permittee has successfully petitioned for an exception. Lab sheets for metals must be attached to the DMRs.

Table 2			
Outfall 001			
Self-Monitoring and Reporting Requirements^a			
Parameter	Frequency	Sample Type	Units
Total Flow, MGD^{b, c, d}	Continuous	Recorder	MGD
TSS, mg/L	Monthly	Grab	mg/L
pH, Standard Units	Monthly	Grab	SU
DO, mg/L	Monthly	Grab	mg/L
Oil & Grease, mg/L^e	Monthly	Grab	mg/L
TDS, mg/L	Monthly	Grab	mg/L
Temperature, °F	Monthly	Grab	F
Total Organic Nitrogen	Quarterly	Grab	mg/L
Copper	Quarterly	Grab/Comp	mg/L
Nickel	Quarterly	Grab/Comp	mg/L
Zinc	Quarterly	Grab/Comp	mg/L
Metals^{f, g, h}	Annually	Grab/Comp	mg/L

Table References

- ^{a.} See Definitions, *Part VIII*, for definition of terms.
- ^{b.} All parameters in this table will be reported on the monthly Discharge Monitoring Report.
- ^{c.} Flow measurements of effluent volume shall be made in such a manner that the permittee can affirmatively demonstrate that representative values are being obtained.
- ^{d.} If the rate of discharge is controlled, the rate and duration of discharge shall be reported.
- ^{e.} There shall be no visible sheen or floating solids or visible foam in other than trace amounts.
- ^{f.} Metals samples should be analyzed using a method that meets MDL requirements. If a test method is not available the permittee must submit documentation to the Director regarding the method that will be used. The sample type (composite or grab) should be performed according to the methods requirements.
- ^{g.} Metals are being sampled in support of the work being done for the Reasonable Potential

Analysis. The Metal parameters will be monitored and reported on an annual basis by the facility on Discharge Monitoring Report, but will not have a limit associated with them, if Casper's decides to sample more frequently for these parameters, the additional data is required to be reported.

h.

Metals

Arsenic
Cadmium
Total Chromium
Copper
Cyanide
Lead
Mercury
Nickel
Selenium
Silver
Zinc

End Table References

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BIOSOLIDS

The State of Utah has adopted the 40 CFR 503 federal regulations for the disposal of sewage sludge (biosolids) by reference. However, since this facility is an industrial facility, there is not any regular sanitary sludge production. Therefore 40 CFR 503 does not apply to the solids in the onsite pond.

STORM WATER

Separate storm water permits may be required based on the types of activities occurring on site.

Permit coverage under the Multi Sector General Permit (MSGP) for Storm Water Discharges from Industrial Activities is required based on the Standard Industrial Classification (SIC) code for the facility and the types of industrial activities occurring. If the facility is not already covered, it has 30 days from when this permit is issued to submit the appropriate Notice of Intent (NOI) for the MSGP or exclusion documentation. Previously storm water discharge requirements and coverage were combined in this individual permit. These have been separated to provide consistency among permittees, electronic reporting for storm water discharge monitoring reports, and increase flexibility to changing site conditions.

Permit coverage under the Construction General Storm Water Permit (CGP) is required for any construction at the facility which disturb an acre or more, or is part of a common plan of development or sale that is an acre or greater. A Notice of Intent (NOI) is required to obtain a construction storm water permit prior to the period of construction.

Information on storm water permit requirements can be found at <http://stormwater.utah.gov>

PRETREATMENT REQUIREMENTS

Any wastewater discharged to the sanitary sewer, either as a direct discharge or as a hauled waste, is subject to Federal, State and local pretreatment regulations. Pursuant to Section 307 of the CWA, the permittee shall comply with all applicable Federal Pretreatment Regulations promulgated at 40 CFR Part 403, the State Pretreatment Requirements at UAC R317-8-8, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the wastewaters.

In addition, in accordance with 40 CFR Part 403.12(p)(1), the permittee must notify the POTW, the EPA Regional Waste Management Director, and the State hazardous waste authorities, in writing, if the permittee discharges any substance into a POTW which if otherwise disposed of would be considered a hazardous waste under 40 CFR Part 261. This notification must include the name of the hazardous waste, the EPA hazardous waste number, and the type of discharge (continuous or batch).

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges where effluent toxicity is an existing or potential concern is regulated in accordance with the Utah Pollutant Discharge Elimination System Permit and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring), dated February 2018. Authority to require effluent biomonitoring is provided in Permit Conditions, UAC R317-8-4.2, Permit Provisions, UAC R317-8-5.3 and Water Quality Standards, UAC R317-2-5 and R317 -2-7.2.

The permittee is a minor industrial facility that will discharge a relatively small volume of effluent to the receiving water. The effluent from this facility is from storm water and/or cooling water, in which toxicity is neither an existing concern, nor likely to be present. Based on these considerations there is no reasonable potential for toxicity in the permittee's discharge (per State of Utah Permitting and Enforcement Guidance Document for WET Control). As such, there will be no numerical WET limitations or WET monitoring requirements in this permit. However, the permit will contain a toxicity limitation re-opener provision that allows for modification of the permit should additional information indicate the presence of toxicity in the discharge.

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PERMIT DURATION

It is recommended that this permit be effective for a duration of five (5) years.

Drafted by
Sarah Ward, Discharge
Daniel Griffin, Biosolids
Jennifer Robinson, Pretreatment
Lonnie Shull, Biomonitoring
Lisa Stevens, Storm Water
Suzan Tahir, Wasteload Analysis
Utah Division of Water Quality, (801) 536-4300

PUBLIC NOTICE

Began: Month Day, Year
Ended: Month Day, Year

Comments will be received at: 195 North 1950 West
PO Box 144870
Salt Lake City, UT 84114-4870

The Public Noticed of the draft permit was published in the (NEWSPAPER OF RECORD FOR AREA).

During the public comment period provided under R317-8-6.5, any interested person may submit written comments on the draft permit and may request a public hearing, if no hearing has already been scheduled. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. All comments will be considered in making the final decision and shall be answered as provided in R317-8-6.12.

ADDENDUM TO FSSOB

During finalization of the Permit certain dates, spelling edits and minor language corrections were completed. Due to the nature of these changes they were not considered Major and the permit is not required to be re Public Noticed.

Responsiveness Summary

(Explain any comments received and response sent. Actual letters can be referenced, but not required to be included).

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ATTACHMENT 1

Effluent Monitoring Data

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Effluent Monitoring Data.

Air Products Mfg. Corp Bountiful Utah Facility						
Sample Date	Chlorine mg/l	Oil & Grease mg/l	TDS mg/l	TSS mg/l	pH	Flow gpm
1/12/2018	0.30	< 5	1620	5	8.18	40.5
2/15/2018	< 0.10	< 5	1270	< 4	8	34.5
3/7/2018	< 0.10	< 5	1440	< 4	8.1	34
4/3/2018	< 0.10	< 5	836	6	8.1	34
5/7/2018	< 0.10	7	1370	< 4	8.32	34
6/4/2018	< 0.10	< 5	1150	< 4	8.1	34
7/2/2018	< 0.10	< 5	1090	< 4	8.31	34
8/6/2018	< 0.10	< 6	1140	< 4	8.6	40.5
9/4/2018	0.12	< 5	948	< 4	8.29	34
10/1/2018	< 0.10	< 5	1240	< 4	7.46	34
11/5/2018	< 0.10	< 5	1240	< 4	8.25	34.5
12/10/2018	0.14	< 5	940	< 4	8.27	34.5
1/9/2019	0.34	< 5	1340	< 4	8.2	34
2/4/2019	0.24	< 5	1480	< 4	8.23	34
3/5/2019	0.19	< 5	1400	< 4	8.25	34
4/18/2019	0.56	< 5	1650	< 4	8.29	34
5/6/2019	0.11	< 5	1690	< 4	8.08	34
6/3/2019	< 0.10	< 5	1650	< 4	8.1	34
7/1/2019	< 0.10	< 6	1580	< 4	7.34	34
8/5/2019	0.19	< 5	1380	< 4	7.54	34
9/9/2019	< 0.10	< 6	1660	< 4	8.15	34
10/7/2019	< 0.10	< 6	1540	< 4	8.24	34
11/4/2019	< 0.10	< 6	1480	< 4	8.35	34
12/11/2019	0.58	< 5	948	< 4	7.99	30
Maximum	0.56	7	1690	6	8.60	40.5
Average	0.16	5	1354	4	8.12	34.6

Air Products Mfg. Corp Bountiful Utah Facility

Sample Date	Chlorine mg/l	Oil & Grease mg/l	TDS mg/l	TSS mg/l	pH	Flow gpm
1/7/2015	< 0.10		1300	< 4	8.11	15.9
2/11/2015	< 0.10		1280	< 4	8.2	12.5
3/11/2015	< 0.10		1320	10	8.3	12.5
4/22/2015	0.11		1420	< 4	7.7	29
5/13/2015	< 0.10		1500	4	7.3	19.7
6/17/2015	< 0.10		1190	< 4	7.76	19.7
7/22/2015	< 0.10		1350	< 4	7.7	19.7
8/5/2015	< 0.10		1280	< 4	7.7	19.7
9/2/2015	< 0.10	< 5	1450	< 4	8	19.7
10/14/2015	< 0.10	< 5	1520	< 4	7.55	19.7
11/20/2015	< 0.10	< 5	1280	< 4	7.6	12.5
12/9/2015	< 0.10	< 5	1430	< 4	7.3	15.9
1/6/2016	< 0.10	< 5	1190	< 4	8.45	15.9
2/3/2016	< 0.10	< 5	1180	< 4	8.25	19.7
3/9/2016	< 0.10	< 5	1260	< 4	8.09	19.7
4/13/2016	0.10	< 5	1370	< 4	7.1	19.7
5/18/2016	< 0.10	< 5	1510	< 4	8.2	15.9
6/15/2016	< 0.10	< 5	1500	< 4	8.3	12.5
7/7/2016	< 0.10	< 5	1540	< 4	8.2	13.6
8/10/2016	< 0.10	< 5	1540	< 4	8.2	19.7
9/30/2016	< 0.10	< 5	1330	< 4	7.8	19.7
10/12/2016	< 0.10	< 5	1090	< 4	8.0	12.6
11/15/2016	< 0.10	< 5	912	< 4	8.3	15.9
12/16/2016	< 0.10	< 5	1520	< 4	7.9	15.9
1/26/2017	< 0.10	< 5	1590	< 4	7.9	24.1
2/22/2017	0.11	< 5	1120	12	7.4	24.1
3/27/2017	0.17	< 5	1310	5	8.3	19.7
4/12/2017	0.22	< 5	1320	< 4	8.3	13.1
5/10/2017	0.14	< 5	1250	4	7.8	19.5
6/21/2017	0.14	< 6	1550	< 4	8	19.6
7/22/2017	0.25	< 7	1820	< 4	8.3	29
8/18/2017	< 0.10	< 5	1660	4	7.88	19.7
9/12/2017	0.09	< 5	1570	< 4	8.5	34.5
10/11/2017	0.48	< 5	1630	< 4	8.2	24.1
11/10/2017	0.90	< 5	1440	< 4	8.3	34.5
12/22/2017	0.14	< 6	1320	< 4	8.6	49
Maximum	0.90	7	1820	12	8.60	49.0
Average	0.15	5	1385	4	7.99	20.2

Air Products Mfg Corp Bountiful Utah Facility

Sample Date	Ammonia as N mg/l	Total Nitrogen mg/l	Phosphate, ortho mg/l	Phosphorus Total mg/l	TKN mg/l
7/29/2015	< 0.2	3.5	0.47	2.00	< 1.0
8/5/2015	0.3	3	0.26	0.96	2.0
9/2/2015			0.26	1.00	1.0
10/14/2015	< 0.2	2.7		0.28	< 1.0
11/19/2015	0.8	3.6	0.25	1.90	1.0
12/9/2015	0.7	3.7	0.17	1.10	1.0
1/6/2016	< 0.2	4.2		1.30	< 1.0
2/3/2016	< 0.2	3.9	0.36	0.79	< 1.0
3/16/2019	< 0.2	24.5	0.01	0.60	< 1.0
4/13/2016	< 0.2	4.2	0.08	0.60	< 1.0
5/18/2016	< 0.2	4.6	0.17	0.68	< 1.0
6/15/2016	< 0.2	4.3	0.14	1.20	8.0
7/6/2016	< 0.2	4.7	0.12	1.50	2.0
8/10/2016	< 0.2	4	0.12	0.86	1.0
9/20/2016	< 0.2	3.1	0.27	1.40	1.0
10/26/2016	< 0.2	2.7	0.08	0.27	< 1.0
11/2/2016	< 0.2	3.3	0.18	1.10	1.4
12/16/2016	< 0.2	4.6	0.07	1.30	< 1.0
1/17/2017	< 0.2	4.8	0.33	0.95	< 1.0
2/21/2017	< 0.2	3.7	0.22	0.35	< 1.0
3/15/2017	< 0.2	3.5	0.35	0.70	< 1.0
4/11/2017	0.2	2.7	0.66	1.30	< 1.0
5/9/2017	< 0.2	5.3	0.51	1.10	< 1.0
6/20/2017	< 0.2	6.1	0.48	0.82	1.1
7/11/2017	< 0.2	3.9	0.48	1.40	1.0
8/17/2017	0.2	3.7	0.86	2.00	1.9
9/12/2017	0.3	2.9	1.10	3.30	2.2
10/10/2017	< 0.2	4.7	0.63	1.60	1.0
11/9/2017	0.3	3.9	1.70	4.00	< 1.0
12/22/2017	< 0.2	3.6	0.46	1.60	1.1
1/12/2018	< 0.2	4.1	0.20	1.20	1.2
Maximum	0.8	24.5	1.70	4.00	8.0
Average	0.2	4.6	0.4	1.3	1.4

ATTACHMENT 3

Wasteload Analysis

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ATTACHMENT 4

Reasonable Potential Analysis

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REASONABLE POTENTIAL ANALYSIS

Water Quality has worked to improve our reasonable potential analysis (RP) for the inclusion of limits for parameters in the permit by using an EPA provided model. As a result of the model, more parameters may be included in the renewal permit. A Copy of the Reasonable Potential Analysis Guidance (RP Guide) is available at water Quality. There are four outcomes for the RP Analysis¹. They are;

- Outcome A: A new effluent limitation will be placed in the permit.
- Outcome B: No new effluent limitation. Routine monitoring requirements will be placed or increased from what they are in the permit,
- Outcome C: No new effluent limitation. Routine monitoring requirements maintained as they are in the permit,
- Outcome D: No limitation or routine monitoring requirements are in the permit.

Since January 1, 2016, DWQ has conducted reasonable potential analysis (RP) on all new and renewal applications received after that date. To complete a RP analysis, more than 10 data points per parameter are needed. Air Products was not required to sample for metal parameters in their previous permit, therefore, analysis data is not available to perform a RP analysis. For this permit cycle, Air Products will be required to permit, at a minimum, annual metal sampling. If additional sampling is performed, it shall be reported to DWQ. Less than 10 data points may affect the RP outcomes which may require additional monitoring in the future.

¹ See Reasonable Potential Analysis Guidance for definitions of terms