UTAH DIVISION OF WATER QUALITY (DWQ)
FACT SHEET STATEMENT OF BASIS
AIR PRODUCTS and CHEMICALS, INC.
MINOR INDUSTRIAL RENEWAL PERMIT
UPDES PERMIT No. UT0024210

FACILITY CONTACTS

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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 on site 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.

DESCRIPTION OF DISCHARGE

Air Products has one outfall for discharging wastewater and storm water effluent as described below:

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.

EFFLUENT DISCHARGE AND MONITORING DATA

Air Products has been reporting self-monitoring results on Discharge Monitoring Reports (DMRs) on a monthly basis as required. In addition to the monthly monitoring requirements and upon request

from DWQ, the permittee in May 2009 performed sampling and analyses of 13 total metal parameters for verification purposes. Of the 13 total metal parameters, 9 reported non-detectable concentrations with the remaining 4 total metals reporting concentrations just above the method detection limits and well below State Water Quality Standards as per *Utah Administrative Code R317-2.* The additional effluent monitoring provides further support and data that these primary metal parameters are not an existing concern in the permittee's discharge and therefore have not been included in neither previous permits, nor in this permit renewal as well. Table 1 below includes effluent data from January 2011 through September 2014. There was one effluent limitation violations for TDS, as reported in the DMRs under the previous permit.

Table 1: DMR Summary from 2011- September 2014 (permit limits in parenthesis)

DATE	Flow, GPM Daily Max	pH Daily Max (6.5-9.0)	TDS, mg/l 30-day Ave. (2500 mg/l)	TSS, mg/l 30-day Ave. (25/35 mg/l)	TRC, mg/l Daily Max (0.7 lb/d)	O&G Visual Test
1/31/11	24.1	7.1	1550	<4	<0.0237	0
2/28/11	19.7	6.8	1560	<4	<0.024	0
3/31/11	34.5	7.3	1510	<4	<0.029	0
4/30/11	34.8	7.2	1620	<4	<0.0116	0
5/31/11	40.5	7.2	1860	<4	<0.0237	0
6/30/11	15.9	7.1	1350	<4	<0.0191	0
7/31/11	34.5	7.7	2010	4	0.035	0
8/31/11	24.1	7.4	1700	5	0.035	0
9/30/11	47.2	7.3	1850	<4	<0.057	0
10/31/11	34.5	7.7	1760	<4	<0.0414	0
11/30/11	40.3	7.2	1660	<4	<0.048	0
12/31/11	40	7.4	1490	<4	<0.048	0
1/31/12	40.5	7.5	1800	<4	<0.0414	0
2/29/12	34.5	7.7	1710	<4	<0.029	0
3/31/12	29	7.7	1760	<4	<0.035	not required
4/30/12	29	7.8	1940	<4	<0.035	0
5/31/12	9.62	8	1050	4	<0.0042	0
6/30/12	12.5	7.2	2010	4	<0.006	0
7/31/12	12.5	6.8	2260	not required	<0.006	0
8/31/12	19.7	7.3	1590	<4	<0.0237	0
9/30/12	12.5	6.8	not required	5	<0.0086	0
10/31/12	12.5	6.9	2120	<4	<0.0116	0
11/30/12	19.7	7	1250	<4	<0.0237	0
12/31/12	29	7	1900	<4	<0.0035	0
1/31/13	15.9	7.2	1740	<4	<0.019	0
2/28/13	12.5	7.3	1680	<4	<0.015	0
3/31/13	40.5	7.6	2420	5	<0.048	0
4/30/13	19.7	7.9	1350	4	<0.004	0
5/31/13	24.1	7.4	2030	6	<0.029	0
6/30/13	29	7.2	1870	<4	<0.0062	0
7/31/13	59.7	7.2	1670	6	<0.0712	0
8/31/13	24.1	7	1840	<4	<0.0289	0
9/30/13	54	7.5	1650	<4	<0.0191	0
10/31/13	40.5	7.2	1580	<4	<0.0486	0
11/30/13	26.1	8.6	1450	<4	<0.08	0
12/31/13	19.7	7.5	1830	<4	<0.021	0
1/31/14	15.9	7.4	***3620***	8	<0.021	0
2/28/14	19.7	8	1590	4	<0.0024	0
3/31/14	24.1	7.6	1360	4	<0.0115	0
4/30/14	19.7	7.4	1700	<4	<0.024	0
5/31/14	not required	7.4	1460	4	<0.005	0
6/30/14	9.62	6.7	1700	<4	<0.003	0
7/31/14	not received	not received	not received	not received	not received	not received
8/31/14	9.62	6.8	1800	6	not received	0
9/30/14	19.7	7.1	1760	<4	<0.024	0

Bold Italics- exceedance of permit limit

GPM- gallons per minute
mg/l- milligrams per liter
TDS- total dissolved solids
TSS- total suspended solids
TRC- total residual chlorine
O&G- oil and grease

RECEIVING WATERS AND STREAM CLASSIFICATION

The Air Product effluent discharges into Stone Creek, more specifically into the segment between the U.S. National Forest Boundary and Farmington Bay. This segment of Stone Creek has been assigned the following classifications:

Class 2B Protected for secondary contact recreation such as boating, wading, or similar uses.

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 were evaluated to maintain designated beneficial uses of downgradient waters. Limitations on total suspended solids (TSS) and pH are based on current Utah Secondary Treatment Standards, which can be found in *Utah Administrative Code (UAC) R317-1-3.2*. The total residual chlorine (TRC) limitations are based on the waste load analysis performed for the permit renewal and the permit authority's best professional judgment (BPJ). The inclusion of the mass loading limitation, as well the existing concentration limitation for TRC is based upon the requirements found in *40 CFR 122.45*. The total dissolved solids (TDS) and oil & grease (O&G) requirements are based upon previous permit conditions and BPJ and both remain unchanged in this permit renewal as well.

Based on previous monitoring data and the existing treatment facility operations, the permittee is expected to be able to continue to comply with the following effluent limitations:

Parameter, units	Effluent Limitations			
	Maximum Monthly Average	Maximum Weekly Average	Daily Minimum	Daily Maximum
Total Dissolved Solids, mg/L	2500	N/A	N/A	N/A
Total Suspended Solids, mg/L	25	35	N/A	N/A
Total Residual Chlorine, mg/L & lbs/day	N/A	N/A	N/A	0.5 & 0.2
pH, Standard Units(SU)	N/A	N/A	6.5	9.0
Oil & Grease*, mg/l	Weekly	Visual/Grab	N/A	10

N/A - Not Applicable mg/l - milligrams per liter lbs/day - pounds per day

*If an oil or grease sheen is visually observed, then a grab sample shall be immediately collected for

oil & grease and that sample shall not exceed 10 mg/l.

WASTE LOAD ANALYSIS AND ANTIDEGRADATION REVIEW

Effluent limitations are also derived using a waste load analysis (WLA), which is appended to this statement of basis as ADDENDUM. The WLA incorporates Secondary Treatment Standards, Water Quality Standards, Antidegradation Reviews (ADR), as appropriate and designated uses into a water quality model that projects the effects of discharge concentrations on receiving water quality. Effluent limitations are those that the model demonstrates are sufficient to meet State water quality standards in the receiving waters. During this UPDES renewal permit development, a WLA and ADR were performed. An ADR Level I review was performed and concluded that an ADR Level II review was not required. The WLA indicates that the effluent limitations should be sufficiently protective of water quality, in order to meet State water quality standards in the receiving waters. The discharge was evaluated and determined not to cause a violation of State Water Quality Standards in downstream receiving waters.

SELF-MONITORING AND REPORTING REQUIREMENTS

The permit's self-monitoring requirements are the same as in the previous permit. The permit will require reports to be submitted monthly on DMR forms due 28 days after the end of each monthly monitoring period.

Self-Monitoring and Reporting Requirements			
Parameter	Frequency	Sample Type	Units
Total Flow	Monthly	Instantaneous	GPM
TSS, Effluent	Monthly	Grab	mg/l
TDS	Monthly	Grab	mg/l
Total Residual Chlorine	Monthly	Grab	mg/l & lbs/day
pH	Monthly	Grab	SU
Oil & Grease*	Weekly	Visual/Grab	mg/l

*If an oil or grease sheen is visually observed, then a grab sample shall be immediately collected for oil & grease and that sample shall not exceed 10 mg/l.

STORMWATER REQUIREMENTS

The storm water requirements are based on the UPDES Multi-Sector General Permit for Storm Water Discharges for Industrial Activity, General Permit No. UTR000000 (MSGP). Sections of the MSGP that pertain to discharges from an industrial activity have been included and sections which are redundant or do not pertain have been deleted.

The permit requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for all areas within the confines of the plant. The SWPPP must be updated when storm water-related or effluent-related changes occur on the property. The SWPPP elements of this plan are required to include: 1) the development of a pollution prevention team, 2) development of

drainage maps and materials stockpiles, 3) an inventory of exposed materials, 4) spill reporting and response procedures, 5) a preventative maintenance program, 6) employee training, 7) certification that storm water discharges are not mixed with non-storm water discharges, 8) compliance site evaluations and potential pollutant source identification, and 9) visual examinations of storm water discharges. The SWPPP is maintained on site and is available for review during inspections.

PRETREATMENT REQUIREMENTS

Any process wastewater that the facility may discharge to a sanitary sewer system, 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 Clean Water Act, the permittee shall comply with all applicable Federal general pretreatment regulations promulgated, found in *40 CFR 403*, the State's pretreatment requirements found in *UAC R317-8-8*, and any specific local discharge limitations developed by the Publicly Owned Treatment Works (POTW) accepting the waste. This facility discharges process wastewater to the local sanitary sewer system and coordinates directly with the POTW for monitoring and authorization as required. The process waste water discharged to the POTW consists of condensate and post oil-water separator treatment.

BIOMONITORING REQUIREMENTS

A nationwide effort to control toxic discharges when effluent toxicity is an existing or potential concern is regulated in accordance with the *State if Utah Permitting and Enforcement Guidance Document for Whole Effluent Toxicity Control (biomonitoring)*. 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 classified as 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 has not been an existing or potential concern. Based on these considerations, there is no reasonable potential for toxicity in the facility's discharge *(per State of Utah's UPDES 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 at any time in the future should additional information indicate the presence of toxicity in the discharge.

SUBSTANTIVE PERMIT CHANGES

There are no changes from the existing permit to this draft renewal permit with the exception of a reduction in the TRC daily maximum concentration of 0.7 mg/l to 0.5 mg/l. All other permit limitations and requirements remain unchanged.

PERMIT DURATION

As stated in *UAC R317-8-5.1(1)*, UPDES permits shall be effective for a fixed term not to exceed five (5) years.

Drafted by
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