MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT
14306 Park AvenueVictorville,CA92392-2310
760.245.1661 -- 800.635.4617 -- FAX760.245.2022

RENEWAL

C014224

Renewal type Permit has no description information.

EXPIRES LAST DAY OF:JUNE 2025

OWNER OF OPERATOR (Co.#2694)

American Quartz Group, Inc.
2957 Lenwood Road
Barstow,CA92311

EQUIPMENT LOCATION (Fac.#4116)

American Quartz Group, Inc.
2957 Lenwood Road
Barstow,CA92311

Description:
ORGANIC WASTE GAS PURIFICATION PLANT (CATOX01) consisting of:A multi-stage organic gas purification plant, with a maximum waste gas treatment capacity of approximately 23,500 cfm, consisting of: One (1) filtration module, 11.5' L x 6.6' W x 11.5' H, employing double layered bag filters; One (1) rotor concentrator module, 11.5 L x 11.4' W x 4.6' H, consisting of a 9.7 foot diameter and 1.3 foot depth molecular sieve rotor (manufacturer reported purification efficiency of greater than or equal to 90%); One (1) fan module, 14.5' L x 11.5' W x 11.5' H, consisting of one (1) 55 kW primary fan, one (1) 7.5 kW regeneration fan and one (1) 7.5 kW induced draft furnace fan; and One (1) catalyst furnace module, 14.8' L x 11.5' W x 11.5' H, consisting of one (1) natural gas-fired burner, with a maximum rated heat input of 120 kW (0.41 MMBtu/hr), one (1) catalyst furnace (manufacturer reported catalytic combustion purification efficiency of greater than or equal to 97%), and one (1) regenerative heat exchanger. Purification plant treated air exhausts to atmosphere through an approximately 49.2 foot high stack with a diameter of 3.6 feet.

CONDITIONS:

1.This equipment shall be installed, operated and maintained in strict accordance with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants. Unless otherwise noted, this equipment shall also be operated in accordance with all data and specifications submitted with the application(s) for this permit.
[District Rule 1302(C)(2)(a)]

2.The filtration module, rotor concentrator module, fan module, and catalyst furnace module (as described above), composing this organic waste gas purification plant, shall be maintained, calibrated (where applicable), and operated in accordance with the manufacturer's instructions. Furthermore, this organic waste gas purification plant, including all modular components, shall be continuously in operation while cast polymer operations permitted under MDAQMD permit nos. B014222 and B014223 are in progress. The manufacturer's operating and maintenance manual(s) shall be maintained on site and made available to the District upon request.
[District Rules 1162, 1302 and 1320]

Fee Schedule:7 (h) Rating:1device SIC:3281 SCC:30800736 Location/UTM(Km):491E/3857N

This permit does not authorize the emission of air contaminants in excess of those allowed by law, including Division 26 of the Health and Safety Code of the State of California and the Rules and Regulations of the District. This permit cannot be construed as permission to violate existing laws, ordinances, statutes or regulations of this or other governmental agencies. This permit must be renewed by the expiration date above. If billing for renewal fee required by Rule 301(c) is not received by expiration date above, please contact the District.

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By: **COPY**
Brad Poiriez
Air Pollution Control Officer

3.The catalyst furnace module shall be equipped with a control system capable of controlling, continuously monitoring, and recording the combustion chamber temperatures. The system shall continuously monitor and record the combustion chamber gas temperature by use of a chart recorder and/or data logger on site. This system shall have an accuracy of within 1% of the temperature being monitored and shall be inspected, calibrated, and maintained on an annual basis in accordance with the manufacturer's specifications. This system shall be in continuous operation while cast polymer operations are in progress.
[District Rule 1162(D)(2)(a)]

4.Once every quarter, an accuracy audit shall be conducted to determine if the temperature measurement device (sensor/transducer) within the catalyst furnace module's combustion chamber control system is still functioning properly. Accuracy audit methods include comparisons of output to redundant temperature measurement devices, to calibrated temperature measurement devices, or to temperature simulation devices. The temperature measurement device (sensor/transducer) shall be replaced with a new temperature measurement device (sensor/transducer) either if the device displays visual damage or the device is no longer accurate to within 1% of the temperature indicator range, as established during source testing.
[District Rules 1162, 1302 and 1320]

5.This organic waste gas purification plant's ductwork shall be operated under negative pressure. An audio, visual, and olfactory (AVO) inspection of the capture system shall be performed monthly to check for leaking components. The capture system shall be maintained free of holes, cracks, and other conditions that would reduce the collection efficiency of the capture system.
[District Rules 204 and 1162]

6.Planned maintenance on the organic waste gas purification plant shall only be performed during periods when cast polymer operations being controlled by the plant are not in operation.
[District Rules 204 and 1162]

7.The owner/operator shall maintain a current operations log for this organic waste gas purification plant on-site (or at a central location) for a minimum of five (5) years, and this log shall be provided to District, State and Federal personnel upon request. The log shall include, at a minimum, the information specified below:
a. Daily records of continuous measurement of combustion chamber gas temperature, as required in condition 3;
b. Records of monthly AVO inspections of the capture system, as required in condition 5, including any corrective actions performed;
c. Records of quarterly accuracy audits, as required in condition 4, including any corrective actions performed;
d. Records of repairs/maintenance performed on this organic waste gas purification plant, including its capture system;
e. Records of malfunctions, including dates and durations, a description of each malfunction, and the corrective action taken for each malfunction, as required in condition 16;
f. Records of the calibration of all monitoring devices, as required in conditions 2 and 3; and,
g. Results of all source testing, as required in conditions 9 and 11, demonstrating compliance with condition 8.
[District Rules 204, 1162 and 1302]

8.This organic waste gas purification plant shall achieve an Overall Control Efficiency for organic compound emissions of at least 90 percent, by weight. Overall Control Efficiency is defined as the ratio of the weight of a Regulated Air Pollutant removed by an emission control system to the total weight of that Regulated Air Pollutant emitted from a controlled Operation, both measured simultaneously. Overall Control Efficiency shall be determined by the following equation:

Overall Control Efficiency = (Capture Efficiency * Control Device Efficiency)/100

[District Rules 102 and 1162(C)(1)(c)(ii) and 1162(E)(1)(b)]

9.In order to demonstrate compliance with the capture efficiency standard contained within condition 8, the process lines located at this facility (permitted under MDAQMD permit nos. B014222 and B014223) and employing this associated organic waste gas purification plant as its organic compound emissions control device, the owner/operator (o/o) shall conduct initial capture efficiency testing within ninety (90) days of startup of this operation. The testing shall be conducted while both process lines are engaged in polymer casting operations, representative of typical process loads and flow rates. Upon District approval of the initial capture efficiency testing results, this equipment does not require additional regularly scheduled capture efficiency testing; however, additional testing may be required at the discretion of the District. In the event the initial capture efficiency testing fails to meet the standard within this permit, the issue shall be corrected and capture efficiency re-testing shall be conducted within 90 days. The annual frequency may be reduced upon District approval of a written request, accompanied by justification of the request. Additionally, in the event of any physical or operational change made to the capture system, the o/o shall notify the District within ten (10) days of making such change and the District may

require a new capture efficiency test.

The owner/operator must provide a written performance test plan or protocol at least thirty days prior to the test date. The owner/operator must conduct all required compliance/performance tests in accordance with a District-approved test protocol. The owner/operator must notify the District a minimum of ten (10) days prior to the compliance/performance test date so that an observer may be present. The final compliance/performance test results must be submitted to the District not later than forty-five (45) days after the source test date. All compliance/performance test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov.

10. The capture efficiency of this control equipment shall be determined by meeting the design and operation requirements for a permanent total enclosure (PTE) specified in EPA Method 204, Criteria for and Verification of a Permanent of Temporary Total Enclosure, of Appendix M to 40 CFR Part 51. If a PTE does not exist, then a temporary total enclosure must be constructed and verified using EPA Method 204, and capture efficiency testing must be determined using EPA's Guidelines for Determining Capture Efficiency, January 9, 1995, and EPA Methods 204B through E of Appendix M to 40 CFR Part 51, or an alternative test method demonstrated to provide results that are acceptable for the purposes of demonstrating compliance with the provisions of District Rule 1162, subject to District review and approval.
[District Rule 1162(C)(1)(c)(ii)]

11.In order to demonstrate compliance with the emission limitations and control efficiency standards contained within this permit, and to establish the indicator temperature range within the catalyst furnace module's combustion chamber required to meet the minimum required Overall Control Efficiency, this organic waste gas purification plant shall be source tested initially within ninety (90) days of startup. The testing shall be conducted at typical process loads and flow rates. Subsequent performance testing, demonstrating control efficiency for organic compound emissions, shall be conducted once in every twelve (12) month period thereafter. The results of this testing may be coupled with the initial capture efficiency test data in order to calculate Overall Control Efficiency of this control device. Upon District approval of two (2) consecutive source tests, demonstrating compliance with the Overall Control Efficiency standard found within condition 8 of this permit, the annual frequency may be reduced upon District approval of a written request, accompanied by justification of the request. Additionally, in the event of any physical or operational change made to the control system, the o/o shall notify the District within ten (10) days of making such change and the District may require a new control efficiency test.

The owner/operator must provide a written performance test plan or protocol at least thirty days prior to the test date. The owner/operator must conduct all required compliance/performance tests in accordance with a District-approved test protocol. The owner/operator must notify the District a minimum of ten (10) days prior to the compliance/performance test date so that an observer may be present. The final compliance/performance test results must be submitted to the District not later than forty-five (45) days after the source test date. All compliance/performance test notifications, protocols, and results may be submitted electronically to reporting@mdaqmd.ca.gov.

12.The control efficiency of this organic waste gas purification plant and the VOC content in the exhaust gases, measured and calculated as carbon, shall be determined using:
a. EPA Test Method 25 - Determination of Total Gaseous Nonmethane Organic Emissions as Carbon;
b. EPA Method 25A - Determination of Total Gaseous Organic Concentration Using a Flame Ion Analyzer;
c. SCAQMD Method 25.1 - Determination of Total Gaseous Non-Methane Organic Emissions as Carbon (February 1991);
d. SCAQMD Test Method 25.3 - Determination of Low Concentration Non-Methane Non-Ethane Organic Compound Emissions from Clean Fueled Combustion Sources (March 2000);
e. EPA Test Method 18 - Volatile Organic Compounds by Gas Chromatography; or,
f. ARB Method 422 - Determination of Volatile Organic Compounds in Emissions from Stationary Sources.

Determination of exempt compound content shall be determined by using:
a. EPA Test Method 18 - Measurement of Gaseous Organic Compound Emissions by Gas Chromatography;
b. ARB Method 422 - Determination of Volatile Organic Compounds in Emissions from Stationary Sources (January 22, 1987) shall be used to determine emissions of exempt compounds:
i. It is only approved for the compounds listed in Method 422, section 2, that have been exempted from USEPA's definition of VOC; and,
ii. If aqueous impingers are used, the solution also shall be analyzed for the target VOCs; or,
c. SCAQMD Method 303-91 - Determination of Exempt Compounds (February 1993).
[District Rule 1162(E)(1)(d)]

13.The exhaust stack for this organic waste gas purification plant shall be equipped with test ports and provisions for personnel access (e.g. scaffolding, platforms) necessary to perform source tests required to verify compliance with permit conditions. The location of these ports and provisions for access shall be subject to District approval.

[District Rule 217]

14.This facility shall submit an application for a permit modification to the District within 6 months of initial source testing, as required by condition 11, to incorporate into this permit the operating temperature range necessary to meet the minimum control efficiency and compliance assurance monitoring requirements contained within this permit.
[District Rules 1162 and 1302]

15.This equipment is limited to using only PUC-Regulated pipeline quality natural gas for fuel.
[District Rule 431]

16.In the event of a malfunction of this control equipment, or in a natural gas shortage or curtailment episode, the process lines under MDAQMD permit nos. B014222 and B014223 must be shut down as soon as safely possible and shall not be restarted until all malfunctions have been corrected and/or approved fuel supply has been restored. Equipment breakdowns shall be reported to the District in accordance with District Rule 430.
[District Rules 430 and 480]

17.The entire facility shall not emit any of the Regulated Pollutants listed below in excess of the following limits in any consecutive 12 month period to remain below the USEPA's Synthetic Minor - 80% (SM-80) threshold:
a. Oxides of Nitrogen (NOx): 20 tons per consecutive twelve (12) month period, measured as NO2;
b. Oxides of Sulfur (SOx): 20 tons per consecutive twelve (12) month period;
c. Volatile Organic Compounds (VOC): 20 tons per consecutive twelve (12) month period;
d. Carbon Monoxide (CO): 80 tons per consecutive twelve (12) month period;
e. Hydrogen Sulfide (H2S): 8 tons per consecutive twelve (12) month period;
f. Lead (Pb): 0.48 tons per consecutive twelve (12) month period;
g. Particulate Matter 10 microns and less (PM10): 14.5 tons per consecutive twelve (12) month period;
h. Any single Hazardous Air Pollutant (HAP): 8 tons per consecutive twelve (12) month period; and,
i. All HAPs combined: 20 tons per consecutive twelve (12) month period.

Compliance with these limits shall be demonstrated through the submission of a facility-wide Comprehensive Emission Inventory (CEI) for all emitted Regulated Air Pollutants. Exceedance of these emission limits may trigger offsets, BACT, National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 63, Subpart WWWW, Reinforced Plastic Composites Production, and/or require submission of a Title V permit application.
[District Rules 1302 and 1303]

18.A facility wide Comprehensive Emission Inventory (CEI) Plan and Report for all emitted criteria and toxic air pollutants must be submitted to the District, in a format approved by the District, upon District request.
[District Rule 107(b), H&S Code 39607 & 44341-44342 and 40 CFR 51, Subpart A]