RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES
235 Promenade Street
Providence, Rhode Island 02908

08 December 2020

Mr. Earl S. Salisbury III
Plant Superintendent
Cranston Water Pollution Control Facility
140 Pettaconsett Avenue
Cranston, RI 02920

Dear Mr. Salisbury:

The Department of Environmental Management, Office of Air Resources has reviewed and approved your application for the installation of a carbon adsorber to be located at the Cranston Water Pollution Control Facility, 140 Pettaconsett Avenue in Cranston, RI.

Enclosed is a minor source permit issued pursuant to our review of your application (Approval No. 2487).

The issuance of this minor source permit qualifies as an Off-Permit Change for your Title V Operating Permit under "Operating Permits", 250-RICR-120-05-29.15.2. This minor source permit will be incorporated into your operating permit at the time of renewal or re-opening.

A copy of this minor source permit and a copy of your application should be maintained with your operating permit at all times until this permit is incorporated into your operating permit. In addition, as stated in 250-RICR-120-05-29.15.2(D), the permit shield in Section II of your operating permit shall not apply to this permit until it is incorporated into your operating permit.

If there are any questions concerning this permit, please contact me by telephone at 401-222-2808, extension 7154 or by email at jikku.samuel@dem.ri.gov.

Sincerely,

Jikku Samuel
Air Quality Specialist
Office of Air Resources

cc: Cranston Building Official
Michael E. Feinblatt, ESS GROUP, INC.

STATE OF RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES

MINOR SOURCE PERMIT

CITY OF CRANSTON

APPROVAL No. 2487

Pursuant to the provisions of Air Pollution Control Permits, 250-RICR-120-05-9, this minor source permit is issued to:

CITY OF CRANSTON

For the following:

Installation of a Continental Carbon Group, HIGH FLOW HF-1000 T Odor Control System carbon adsorber consisting of a top mounted fan system, demister, and a Calgon Carbon Corporation, Centaur HSV Granular Activated Carbon bed. The carbon adsorption treatment system will control hydrogen sulfide (H_2S) emissions and odors released from the process waste wet well.

Located at: *Cranston Water Pollution Control Facility*

140 Pettaconsett Avenue, Cranston, RI 02920

This permit shall be effective from the date of its issuance and shall remain in effect until revoked by or surrendered to the Department. This permit does not relieve *City of Cranston* from compliance with applicable state and federal air pollution control rules and regulations. The design, construction and operation of this equipment shall be subject to the attached permit conditions and emission limitations.

for

Laurie Grandchamp, P.E., Chief
Office of Air Resources

12/5/20

Date of issuance

STATE OF RHODE ISLAND
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR RESOURCES

Permit Conditions and Emission Limitations

CITY OF CRANSTON

APPROVAL No. 2487

A. Emission Limitations

1. Hydrogen Sulfide (H_2S)

   a. The total quantity of hydrogen sulfide (H_2S) emissions discharged to the atmosphere from the Process Waste Well (P003) shall not exceed 10 pounds during any consecutive 12-month period.

   b. The carbon adsorber shall reduce emissions of hydrogen sulfide (H_2S) by at least 98%.

2. Opacity

   a. Visible emissions from the carbon adsorber shall not exceed 10 percent opacity (six-minute average). Where the presence of uncombined water is the only reason for failure to meet this requirement, such failure shall not be a violation of this requirement.

3. Odors

   a. Any air contaminant or combination of air contaminants discharged to the atmosphere from the facility shall not create an objectionable odor beyond the property line of this facility. Odor evaluations shall be conducted according to the provisions of Air Pollution Control Regulation, "*Odors*" 250-RICR-120-05-17.

B. Operating Requirements

1. All emissions generated from P003 shall be captured, contained, and routed to the carbon adsorber for treatment prior to discharge to the atmosphere.

2. The carbon adsorber shall consist of a single carbon bed containing 32.2 cubic feet of activated carbon. The blower system shall not be operated unless the carbon bed is in operation.

3. The carbon adsorber shall be operated according to its design specifications whenever P003 is in operation or is emitting air contaminants.

4. There shall be no bypassing of the carbon adsorber during times H_2S is being discharged from the P003. If the Continental Carbon Group carbon adsorber is disabled or unable to operate according to this permit, the existing U.S. Filter-Davis Process packed tower scrubber (C005) will serve as a backup. The transfer of discharge from P003 to C005 shall be performed as quickly as possible.

C. Monitoring

1. The pressure drop across the carbon adsorber shall be monitored continuously. The pressure drop shall be checked a minimum of once per shift, and the date, time, and measurement shall be recorded.

2. Test ports shall be provided to allow for the sampling of the inlet and outlet gases of the carbon adsorber.

3. The H_2S concentration at the inlet and outlet of the carbon adsorber shall be measured and recorded. During the initial 30-day period following startup, the H_2S concentrations shall be measured and recorded once per day Monday through Friday, on normal scheduled business days while the system is in operation, and on a weekly basis thereafter.

4. The carbon bed shall be monitored for breakthrough and the activated carbon replaced if breakthrough is detected. For purposes of this permit, breakthrough shall be defined when the H_2S concentration of the gases exiting the carbon bed exceeds 10% of the inlet H_2S concentration. When breakthrough is detected the owner/operator shall direct the exhaust from P003 to C005 until the spent activated carbon in the carbon bed is replaced with fresh activated carbon.

5. The analyzer used to measure the inlet and outlet H_2S concentration shall be calibrated according to the manufacturer's recommendations.

D. Record Keeping and Reporting

1. The owner/operator shall collect, record and maintain the following information each month for the carbon adsorption system:

   a. Records indicating the replacement date(s) of the activated carbon; and

   b. All monitoring equipment calibration records; and

   c. A maintenance log for the carbon adsorption system detailing all routine and non-routine maintenance performed including dates and duration of any outages.

2. The owner/operator shall collect, record and maintain records of the date, time, and pressure drop measurement across the carbon adsorber a minimum of once per shift.

3. The owner/operator shall collect, record, and maintain the measured inlet and outlet H_2S concentration of the carbon adsorber according to the schedule under Condition C.4.

4. The owner/operator shall, on a monthly basis, no later than 15 days after the first of the month, determine the total quantity of H_2S discharged to the atmosphere from P003 for the previous 12-month period. The owner/operator shall keep records of this determination and provide such records to the Office of Air Resources upon request.

5. The owner/operator shall notify the Office of Air Resources in writing, within 15 days of the determination, whenever the total quantity of H_2S discharged to the atmosphere from P003 during the previous 12-month period exceeds 10 pounds.

6. The owner/operator shall notify the Office of Air Resources in writing of the date of actual initial start-up of the Continental Carbon Group, HIGH FLOW HF-1000 T carbon adsorber, no later than fifteen days after such date.

7. The owner/operator shall notify the Office of Air Resources of any anticipated noncompliance with the terms of this permit or any other applicable air pollution control rules and regulations.

8. The owner/operator shall notify the Office of Air Resources in writing of any planned physical or operational change to any equipment that would:

   a. Change the representation of the facility in the application.

   b. Alter the applicability of any state or federal air pollution rules or regulations.

   c. Result in the violation of any terms or conditions of this permit.

   d. Qualify as a modification under 250-RICR-120-05-9.

   Such notification shall include:

   - Information describing the nature of the change.
   - Information describing the effect of the change on the emission of any air contaminant.
   - The scheduled completion date of the planned change.

   Any such change shall be consistent with the appropriate regulation and have the prior approval of the Director.

9. Deviation from permit conditions, including those attributable to upset conditions as defined in this permit, shall be reported, in writing, within five (5) business days of the deviation, to the Office of Air Resources. A copy of any such report shall be sent to the USEPA Region 1. Reports shall describe the probable cause of such deviations, and any corrective actions or preventive measures taken.

10. All records in this permit shall be maintained for a minimum of five (5) years after the date of each record and shall be made available to representatives of the Office of Air Resources upon request.

E. Other Permit Conditions

1. To the extent consistent with the requirements of this permit and applicable federal and state laws, the facility shall be designed, constructed and operated in accordance with the representation of the facility in the permit application.

2. Employees of the Office of Air Resources and its authorized representatives shall be allowed to enter the facility at all times for the purpose of inspecting any air pollution source, investigating any condition it believes may be causing air pollution or examining any records required to be maintained by the Office of Air Resources.

3. At all times, including periods of startup, shutdown and malfunction, the owner/operator shall, to the extent practicable, maintain and operate the facility in a manner consistent with good air pollution control practice for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this permit have been achieved. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Office of Air Resources which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures and inspection of the source.

4. The Office of Air Resources may reopen and revise this permit if it determines that:

    a. a material mistake was made in establishing the operating restrictions; or,

    b. inaccurate emission factors were used in establishing the operating restrictions; or,

    c. emission factors have changed as a result of stack testing or emissions monitoring.

F. Malfunctions

1. The owner/operator may seek to establish that a malfunction of any air pollution control system that would result in noncompliance with any of the terms of this permit or any other applicable air pollution control rules and regulations was due to unavoidable increases in emissions attributable to the malfunction. To do so, the owner/operator must demonstrate to the Office of Air Resources that:

    a. The malfunction was not attributable to improperly designed air pollution control equipment, lack of preventative maintenance, careless or improper operation, or operator error;

    b. The malfunction was not part of a recurring pattern indicative of inadequate design, operation, or maintenance;

    c. Repairs were performed in an expeditious fashion. Off-shift labor and overtime should be utilized, to the extent practicable, to ensure that such repairs were completed as expeditiously as practicable.

d. All possible steps were taken to minimize emissions during the period of time that the repairs were performed.

e. Emissions during the period of time that the repairs were performed will not:

(1) Cause an increase in the ground level ambient concentration at or beyond the property line in excess of that allowed by "Air Toxics", 250-RICR-120-05-22 and any Calculated Acceptable Ambient Levels; and

(2) Cause or contribute to air pollution in violation of any applicable state or national ambient air quality standard.

f. The reasons that it would be impossible or impractical to cease the source operation during said period.

g. The owner/operator's actions in response to the excess emissions were documented by properly signed, contemporaneous operating logs or other relevant evidence.

This demonstration must be provided to the Office of Air Resources, in writing, within two working days of the time when the malfunction occurred and contain a description of the malfunction, any steps taken to minimize emissions and corrective actions taken.

The owner/operator shall have the burden of proof in seeking to establish that noncompliance was due to unavoidable increases in emissions attributable to the malfunction.