

Knox County Department of Air Quality Management
Statement of Basis



I. General Information:

Facility name: Republic Plastics, L.P. – K2 Plant Source No.: 1065

Source type: Title V ICIS-Air ID: TNKNX0004709301065 SIC: 3086 NAICS: 326140

Facility address: 5428 N National Drive, Knoxville, TN 37914

Facility description: Polystyrene foam product manufacturer

Knox County National Ambient Air Quality Standards (NAAQS) attainment status:

Knox County is in attainment with all National Ambient Air Quality Standards (NAAQS).

II. Permit History:

A. Operating Permit V-25-1065

Republic Plastics, L.P. applied for the renewal of the facility's Title V operating permit on October 11, 2024.

B. Permit V-20-1065

Republic Plastics, L.P. applied for the renewal of the Title V Operating permit on October 10, 2019 and the permit was subsequently issued on April 13, 2020.

III. Knox County Air Quality Management Regulations (KCAQMR) Requirements:

A. Facility-wide requirements:

1. KCAQMR Section 25.70-F-1c(3)(a) requirements:

- The owner or operator is required to submit semi-annual reports of any required monitoring including deviations from permit requirements and the report must be certified by a responsible official.

2. KCAQMR Section 25.70-F3.e(3) requirements:

- The owner or operator is required to submit to the Department and EPA an annual compliance certification that is certified by a responsible official which identifies the facility's compliance status with each permit conditions by January 31st of each year.

3. KCAQMR Section 26.5-C requirements:

- The owner or operator is required to report the annual emissions of VOC and NO_x by March 31st each year when the facility has actual emissions of 25 tons per year or greater of nitrogen oxides or volatile organic compounds.

4. KCAQMR Section 34.0 requirements:

- When a malfunction of equipment causes emissions in excess of any applicable emission limit, the owner or operator shall notify the Department within 24 hours of the malfunction and provide a statement giving all pertinent facts, including the duration of the malfunction. The owner or operator shall notify the Department when the malfunction has been corrected.

Notes: None

B. Pellet Feed Silo Bins and Fluff Surge Hoppers (emissions units 001-01 through 001-04) information and requirements

Emission Unit #	Source(s)	Control(s)	Applicable KCAQMR Section(s)
001-01	Pellet Feed Silo Bin	Bin Vent Filter	17.0 and 19.0
001-02	Extruder #1 Fluff Surge Hopper	Baghouses 1-1 and 1-2	17.0 and 19.0
001-03	Extruder #2 Fluff Surge Hopper	Baghouses 2-1 and 2-2	17.0 and 19.0
001-04	Extruder #3 Fluff Surge Hopper	Baghouses 3-1 and 3-2	17.0 and 19.0

Max Production/Throughput: 79,596 lb/day raw pellets 56,265 lb/day foam production
Fuel Input Rate(s): N/A

1. KCAQMR Section 17.0 and 19.0 requirements:

- Emission units 001-01 through 001-04 (silo bin and fluff surge hoppers) are subject to KCAQMR Section 17.1 visible emission limit of 20% opacity for a six (6) minute average.
- Emission units 001-01 through 001-04 (silo bin and fluff surge hoppers) are subject to KCAQMR Section 19.2 maximum particulate matter (TSP) emission limit of 6.65 lb/hr.
- The owner or operator demonstrates ongoing compliance by:
 - Equipping the silo bin with a bin vent filter;
 - Equipping the fluff surge hoppers with baghouses;
 - Operating and maintaining the baghouses and bin vent filters;
 - Installing, operating, and maintaining a device to measure the pressure drop across the baghouses;
 - Inspecting the bin vent filter weekly;
 - Monitoring the pressure drop across the baghouses at least once during each week the associated emission unit operated; and
 - Keeping a record of the results of the weekly monitoring of the bin vent filter and baghouses which includes the date, bin vent filter observations, baghouses' pressure drop readings, and any corrective actions taken.

Notes: Virgin pellet throughput numbers updated by source.

C. Extruder Operations with Associated Roll storage, Thermoforming, and Stamping Processes (emission units 002-01 through 002-03) information and requirements

Emission Unit #	Source(s)	Control(s)	Applicable KCAQMR Section(s)
002-01	Extruder #1 with associated roll storage, thermoforming, and stamping processes	None	19.0
002-02	Extruder #2 with associated roll storage, thermoforming, and stamping processes	None	19.0
002-03	Extruder #3 with associated roll storage, thermoforming, and stamping processes	None	19.0

Max Production/Throughput: 82,944 lb/day if all virgin pellets 56,265 lb/ day utilizing the recycled process.
Fuel Input Rate(s): N/A

1. KCAQMR Section 19.0 requirements:

- Emission units 002-01 through 002-03 (extruder operations) are subject to KCAQMR Section 19.3-B requirement to install and utilize the best equipment and technology for controlling gaseous emissions at the time of construction.
- The owner or operator demonstrates ongoing compliance by:
 - Complying with the applicable requirements contained in KCAQMR Section 25-1D & F (see Section III.C.2); and
 - Limiting emission units 002-01 through 002-03 (extruder operations) to only using isobutane and CO₂ as blowing agents.

2. KCAQMR Section 25-1-D & F (construction permit C-1065-01A) requirements:
- VOC emissions from emission units 002-01 through 002-03 (extruder operations) shall not exceed 249 tons per year during any consecutive 12-month period.
 - The owner or operator demonstrates ongoing compliance by;
 - Keeping a daily record of the mass of isobutane used, the mass of foam sheet produced, and the mass of product produced at the facility;
 - Keeping a record of the isobutane usage during each period of operation of each extruder;
 - Keeping a record of the daily, monthly, and 12-month rolling total mass of isobutane released from the facility; and
 - Submitting finished product samples to an independent laboratory to determine the mass of isobutane retained in the product quarterly (used in calculating the amount of isobutane released from the facility).

Notes: None

IV. Exempted Sources:

Source(s)	Exempted due to
Natural gas fired combustion units less than 10 MMBtu/hr	KCAQMR Section 25.70-L.2.b(1)
Electric ovens	KCAQMR Section 25.70-L.2.a
Space heaters	KCAQMR Section 25.70-L.2.h

V. Compliance History (since last permit renewal):

No record of compliance issues since last permit renewal.
