

Commonwealth of Kentucky
Division for Air Quality
EXECUTIVE SUMMARY

FINAL

Conditional Major, Construction/Operating

Permit: F-25-019

Green Mountain Energy, LLC

7545 Noble Road

West Paducah, KY 42086

October 7, 2025

Johnson Luma, Reviewer

SOURCE ID:	21-145-00157
AGENCY INTEREST:	184811
ACTIVITY:	APE20250001

SOURCE DESCRIPTION:

Green Mountain Energy, LLC is proposing to construct a plastics-to-fuel processing facility located in Paducah, Kentucky.

Facility operations will primarily consist of: material handling, plastic pyrolysis reactors, heat exchangers, storage tanks, flares, loading racks, and pipeline equipment.

DESCRIPTION OF ACTION:

APE20250001: Initial Conditional Major/Synthetic Minor, Construction/Operating Permit.

Feedstock material comes from a variety of industrial suppliers. These materials are brought to the Green Mountain Energy facility where they undergo a quality control evaluation and are then sorted into process feedstock. The plastic feedstock is mixed with water, off-spec naptha, and off-spec diesel to make a slurry. Slurry is then conveyed toward the pyrolysis reactors, where heat is used to break down the plastic compounds. The non-condensable process gas produced will be used as a fuel to heat the pyrolysis reactors. Condensable components are turned into useful petroleum products and stored and sent off-site as products.

The petroleum products are stored in various tanks. If the product does not meet the required specifications, the material will be stored in off-spec tanks. The tanks will be controlled by flaring. The off-spec materials can be recycled into the process before the pyrolysis reaction. The products are then loaded into trucks, rail, or barge for shipment. Truck and tank loadout operations are controlled by flaring. During any malfunction, process upset, and startup/shutdown period, the non-condensable gases will be flared.

APE20240001:

The initial application was submitted requesting a State-Origin construction/operating permit, but due to PTE for VOC and NO_x exceeding major source thresholds, the facility opted to take a federally enforceable, source-wide limit on VOC and NO_x to prevent applicability of 401 KAR 52:020 (for VOC and NO_x) and 401 KAR 51:017 (for VOC).

PUBLIC AND U.S. EPA REVIEW:

On September 5, 2025, the public notice on availability of the draft permit and supporting material for comments by persons affected by the plant was published on the Division's website. In addition, notification of the issuance of the draft permit was sent to the United States Environmental Protection Agency (U.S. EPA) on September 5, 2025. The public comment period expired 30 days from the date of publication.

Comments were received from Holly Argiris, Senior Managing Consultant at ERM, on behalf of Green Mountain Energy LLC on September 26, 2025. The 'Comments and Response document lists the comments received, the Division's response to each comment, and a detailed explanation of the changes made to the permit. Minor changes were made to the permit as a result of the comments received; however, in no case were any emissions standards, or any monitoring, recordkeeping or reporting requirements relaxed.