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Subject: [External] IN THE MATTER OF: CITGO PETROLEUM CORPORATION – AS 26-1  
Date: Wednesday, June 10, 2026 9:39:32 AM

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**IN THE MATTER OF: CITGO PETROLEUM CORPORATION –  
AS 26-1  
COMMENTS OF RESIDENTS REGARDING PUBLIC HEALTH  
PROTECTIONS AND REGULATORY RELIANCE ON MODELING**

Residents submit these comments to express concern regarding whether the proposed adjusted standard provides sufficient protection of public health and whether reliance on modeling and historical compliance data adequately safeguards families and children living near the CITGO Lemont refinery.

**1. Illinois Regulatory History Demonstrates the Limits of Model-Based Assurance**

Illinois has experienced significant environmental health controversies, including the Sterigenics facility in Willowbrook and contamination associated with Lockformer operations in the Chicago Heights region. These cases demonstrate a recurring pattern in which:

- Regulatory compliance and permitting determinations relied heavily on modeled or assumed emissions and exposure scenarios;
- Actual community exposure concerns were not fully identified until after long-term operation; and
- Significant regulatory intervention occurred only after elevated risk or contamination was documented in surrounding residential areas.

In Sterigenics, emissions of ethylene oxide were not adequately understood in terms of community-level exposure risk until independent analysis and regulatory reassessment occurred, ultimately resulting in shutdown and enforcement action. In Lockformer-related contamination, industrial pollutants migrated beyond facility boundaries, affecting residential areas through subsurface and vapor pathways that were not fully anticipated at the time of permitting.

These cases illustrate that compliance with regulatory assumptions does not always ensure real-world protection of nearby communities.

## **2. Reliance on Modeling Alone Is Insufficient to Protect Nearby Sensitive Populations**

The current petition relies significantly on emissions modeling and historical operating data to demonstrate compliance with ambient air quality standards. However, modeling necessarily depends on assumptions regarding emissions timing, dispersion conditions, and operational scenarios.

Residents are concerned that:

- Startup, shutdown, and malfunction events may produce short-term emission spikes not fully captured in averaged modeling scenarios;
- Multiple industrial sources in the region may create cumulative exposure conditions not fully reflected in single-facility analysis; and
- Sensitive populations, including children, older adults, and individuals with respiratory conditions, may experience impacts from short-duration exposure events even where long-term averages appear compliant.

## **3. Historical Compliance Does Not Guarantee Future Safety**

The absence of historically documented coincident emission events does not eliminate the potential for future overlapping or more severe operational scenarios. Industrial operations evolve over time, and assumptions based on past operating conditions may not reflect future configurations, maintenance events, or unplanned upsets.

The Board should therefore evaluate not only historical data, but also reasonably foreseeable worst-case operating scenarios and cumulative exposure conditions.

## **4. The Board Should Apply a Precautionary Approach Consistent With Public Health Protection Goals**

Given Illinois' experience with Sterigenics and Lockformer, residents respectfully submit that the Board should ensure that regulatory relief does not rely exclusively on predictive modeling where real-world exposure uncertainty remains.

A precautionary approach is warranted where:

- Nearby residential populations are present;
- Sensitive populations such as children are within exposure range; and
- Emissions may vary significantly during non-routine operations.

## **5. Requested Protections**

If the Board considers granting the adjusted standard, residents request the inclusion of enforceable conditions to ensure real-world accountability and transparency, including:

- Continuous fence-line air monitoring with publicly accessible data;
- Mandatory public notification of startup, shutdown, malfunction, and excess emission events;
- Independent third-party verification of emissions modeling and assumptions;
- Cumulative impact evaluation incorporating nearby industrial sources;
- Automatic Board review if monitored data deviates from modeled predictions; and
- Periodic reassessment of the adjusted standard to ensure ongoing public health protection.

## **6. Conclusion**

Residents do not oppose industrial activity in principle; however, they seek assurance that regulatory flexibility does not come at the expense of community health protection.

Given Illinois' documented history of delayed recognition of environmental exposure risks in cases such as Sterigenics and Lockformer, the Board should ensure that any adjusted standard granted in this matter includes enforceable, transparent, and verifiable safeguards that reflect real-world exposure conditions rather than modeling assumptions alone.

Respectfully submitted,

Laura Reigle