



January 17, 2023

Mr. Don Brown  
Clerk of the Board  
Illinois Pollution Control Board  
100 W. Randolph St., Suite 11-500  
Chicago, IL 60601

Public Comment: Case R2023-018: Amendments to 35 Ill. Adm. Code Parts 201, 202, and 212

The Chemical Industry Council of Illinois (CICI) would like to thank the Illinois Pollution Control Board for allowing us to comment on IEPA's Proposed Revisions to Parts 201, 202, and 212, regarding Startup, Shutdown, Malfunction, and Breakdown.

CICI is a state-wide non-profit business trade organization that represents the interests of the chemical industry in the state of Illinois. CICI has 215 members representing over 656 facilities in Illinois. CICI members employ over 46,300 people in Illinois with an average annual wage of \$114,083. The startup, shutdown, and malfunction rule is extremely important to our members.

CICI strongly supports comments submitted by Illinois Environmental Regulatory Group (IERG) regarding the background on the Illinois Pollution Control Board's 1972 decision on Malfunctions, Breakdowns and Startups (Rule 105), compliance issues, concerns with enforcement discretion, alternatives, and timing of the comment deadline.

CICI would also like to add comments on selective catalytic reduction and the need for startup, shutdown, and malfunctions exceptions.

Selective catalytic reduction (SCR) is effective at converting nitrogen oxides, also referred to as  $\text{NO}_x$ , in the presence of a catalyst into diatomic nitrogen ( $\text{N}_2$ ), and water ( $\text{H}_2\text{O}$ ). A reductant, typically anhydrous ammonia ( $\text{NH}_3$ ), aqueous ammonia ( $\text{NH}_4\text{OH}$ ), or a urea ( $\text{CO}(\text{NH}_2)_2$ ) solution is injected into flue gas or exhaust gas and reacts with the catalyst. As the reaction drives toward completion, nitrogen ( $\text{N}_2$ ), and carbon dioxide ( $\text{CO}_2$ ), in the case of urea use, are produced.

Commercial selective catalytic reduction systems are typically found on large utility boilers, industrial boilers, municipal solid waste boilers, and chemical production units. SCRs have been shown to reduce  $\text{NO}_x$  by 70-95%.

Temperature is SCR's largest limitation. Most all processes have a startup period where temperature is too low for the catalyst to function. When and where ammonia is used, the reductant cannot be added until the SCR catalyst reaches its minimum operating temperature, otherwise the ammonia would react with  $\text{NO}_x$  to form ammonium nitrates which coats and



degrades the catalyst reducing the catalyst's effectiveness. The generation of ammonium nitrate also creates a safety risk. Likewise, during shutdown, the ammonia cannot be added to the SCR after it drops below its operating minimum operating temperature. The time required to reach minimum operating temperature varies from process to process. In addition to NO<sub>x</sub> concentrations above the normal operating limit, opacity limits can also be exceeded as a secondary result of the short term NO<sub>x</sub> exceedances.

For the above reasons, processes that rely on SCR technology to reduce NO<sub>x</sub> emissions need to have a Startup/Shutdown exception for NO<sub>x</sub> emission limits and opacity during startup and shutdown or an alternative limit built into the operating permit that addresses higher emissions during startup and shutdown. Without this exception, each startup and shutdown will result in deviations of NO<sub>x</sub> emission limits (lb-NO<sub>x</sub>/hr, lb-NO<sub>x</sub>/ton) and opacity limits or all the permits in the state of Illinois would have to be updated to address higher NO<sub>x</sub> emissions or opacity exceedances during startup and shutdown.

CICI members are opposed to IEPA's proposed revisions to startup, shutdown, malfunction, and breakdown. With the SIP Call deadline approaching, we understand that there is a short timeline for Illinois to submit their SIP revisions by the August 2023 to USEPA, but lack of timing should not be a justification to hear the stakeholders' concerns in Illinois. CICI members expect due diligence from the regulatory agency. CICI would like to offer its continued support and interest in the development and implementation of solutions related to the SIP Call proposed rule.

Respectfully submitted,

A handwritten signature in cursive script that reads 'Lisa Frede'.

Lisa Frede

Director of Regulatory Affairs

Chemical Industry Council of Illinois