**How SNCR technology works**

An SNCR system is an injection system that uses urea solution to create a chemical reaction that converts nitrogen oxide into nitrogen and water. Here’s how:

**What SNCR does**

A selective non-catalytic reduction (SNCR) system uses a chemical reaction to convert NOx back into harmless nitrogen and water vapor. SNCR technology can achieve mid-range results in reducing NOx emissions.

SNCR provides less NOx reduction as compared directly with a selective catalytic reduction (SCR) system. AEP continually evaluates the most cost effective NOx reduction technology available for the company and select units.

**On-site ammonia manufacture**

AEP often uses an on-site ammonia manufacture system for the ammonia supply for its environmental control equipment. This means that ammonia gas for SCR use is not shipped to or stored at the plant. Instead, urea is transported to the plant and is used to create ammonia gas on an as-needed basis. Under atmospheric conditions urea is a stable, white granular power that is not classified as toxic. It often is used in lawn fertilizers. For SNCR applications, urea typically is delivered as a solution at 50 percent concentration and then is further diluted with water for direct furnace injection at strategic locations.

**SNCR at AEP**

SNCR technology operates on approximately 1,500 megawatts of AEP generation. Generating units equipped with SNCR technology for NOx reduction are Philip Sporn Plant units 3 and 4; Clinch River Plant units 1, 2 and 3; and Tanners Creek Plant units 1, 2 and 3. These installations began operation in 2009.