



NO_x ABATEMENT WITH SNCR

The objective of SNCR is to reduce the concentration of NO_x (NO and NO₂) in the flue gas after the combustion process. In SNCR, NO_x compounds are chemically reduced by ammonia or ammonia based reagents as described below:



In both reactions NO is reduced to molecular nitrogen. However these reactions require temperatures ranging between 850 and 1050°C so as to achieve a maximum yield as indicated in the figure below.

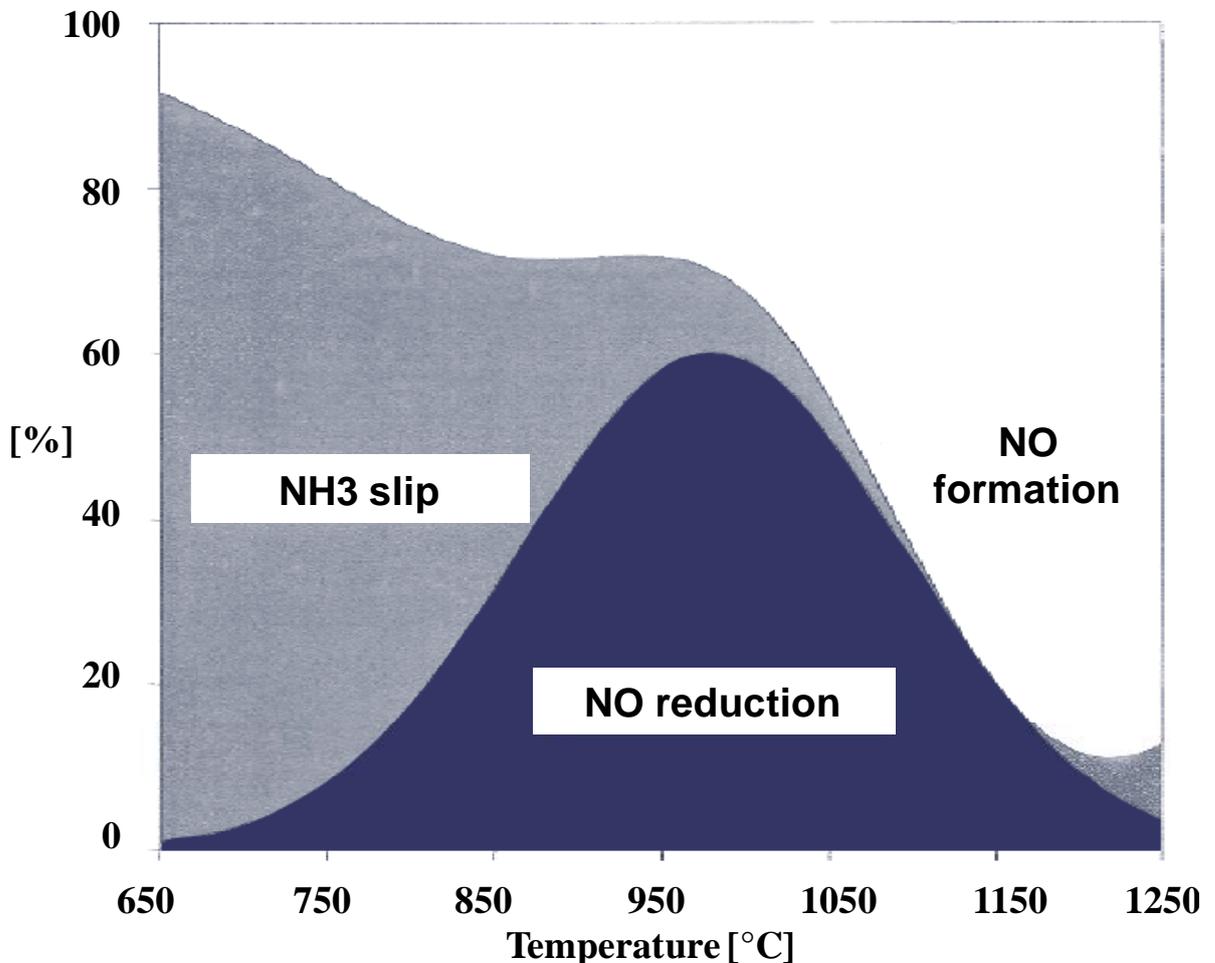


Figure 1: SNCR reaction temperatures

In the lime industry, SNCR is considered in Europe as a Best Available Technique to reduce NO_x emissions for Preheater Rotary Kilns equipped with Lepol grates.



However, thanks to the experience of EESAC, the SNCR technique has been applied to other lime kilns such as Parallel Flow Regenerative Kilns (PFRK) and Shaft Preheater Rotary Kilns (sPRK).

EESAC expertise in SNCR consists in:

- Selecting the best injection place.
- Defining the design of the injection mode.
- Leading industrial tests.

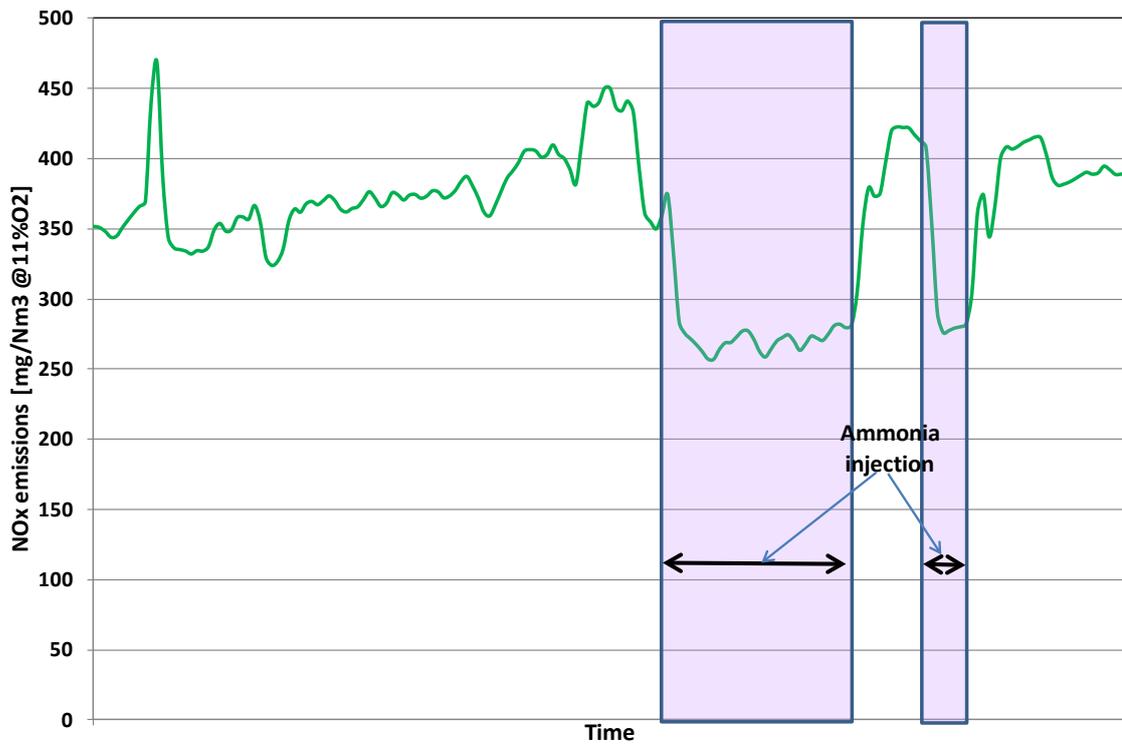


Figure 2: SNCR in sPRK

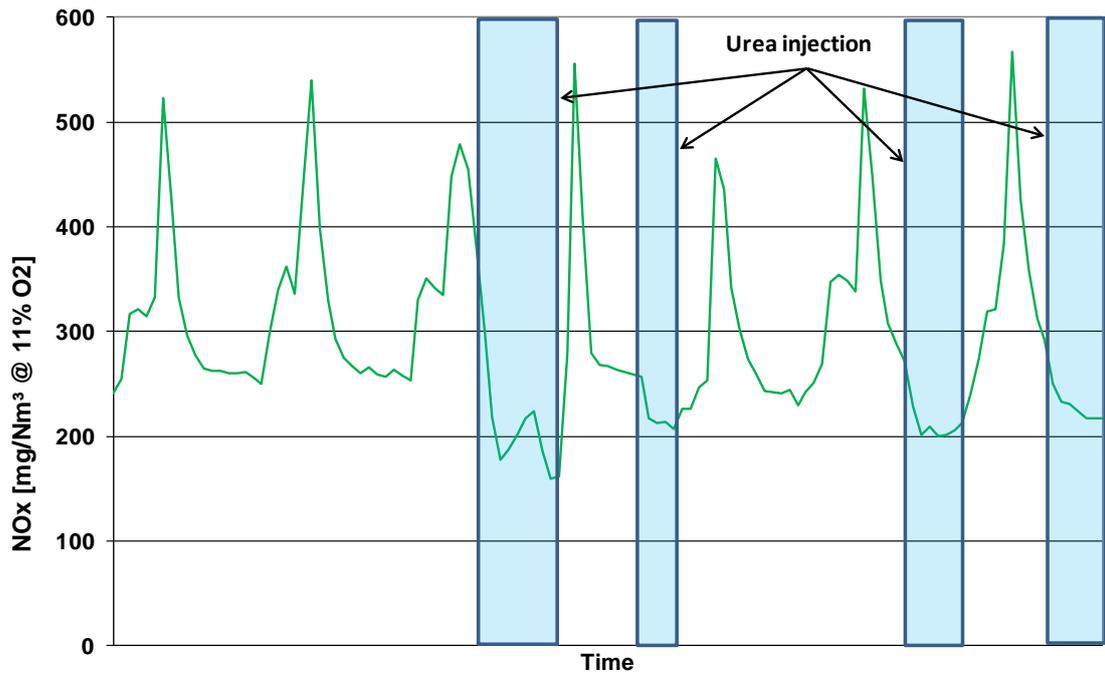


Figure 3: SNCR in PFRK

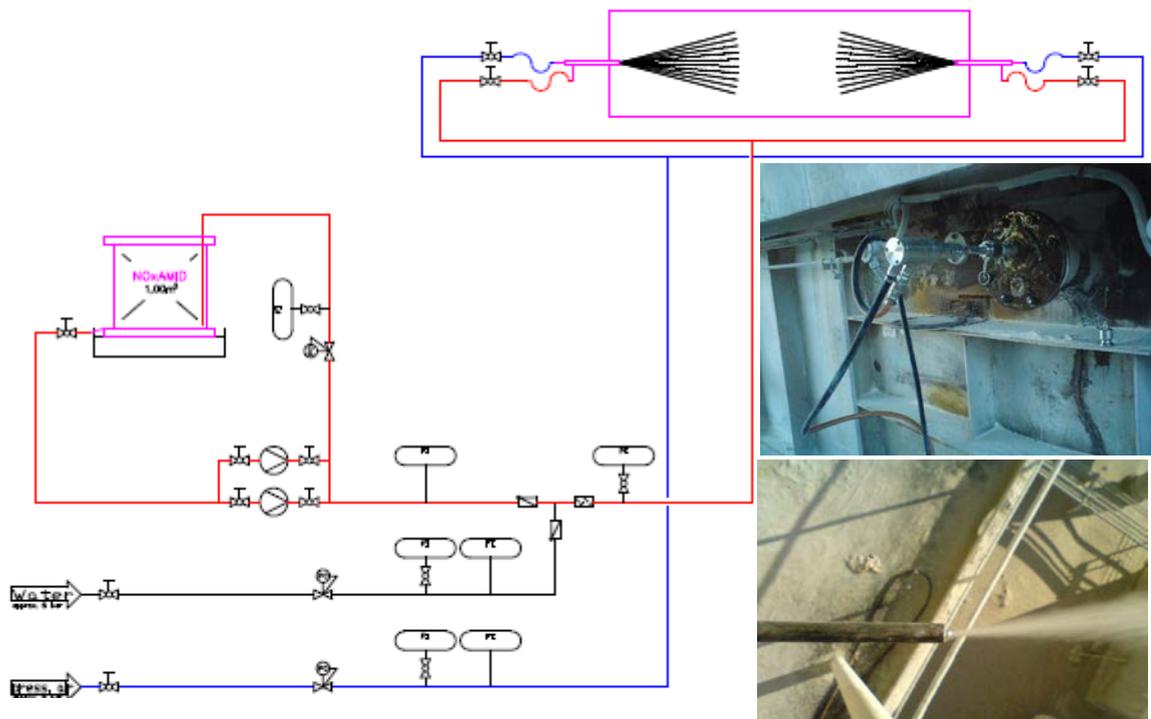


Figure 4: SNCR layout