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Different Conditions, Although the Same Construction Site Comparison of Two SNCR Applications at 380 MW_{el} Lignite-Fired Boilers

Since not even state-of-the-art combustion control measures (so-called primary measures) can assure to meet the current European standard for NO_x emissions of 200 mg/Nm³ across the whole operation range of the boilers, post combustion measures (so-called secondary measures) must be taken in order to safely comply with the emission regulations.

Furthermore, as a result of the update of the current BAT Reference documents (BREF) for large combustion plants, even lower NO_x emission values limits are expected.

The SNCR technology, as a post combustion technology, is on the list of Best Available Technologies (BAT) for NO_x control. Despite all initial concerns, it became nowadays the first choice to control NO_x emissions at large steam generators operated with lignite, since, compared to other competing post combustion NO_x treatment processes, (i.e. the SCR process) it is much easier and faster to implement and the capital costs are by far lower. Especially older boilers, having either a limited or a not defined future running time benefit from this fact. New developments in this technology and many successful reference plants installed during the last years led to this conclusion among the power station operators.

The current paper presents a comparison of ERC Technik's two recent SNCR reference applications, both being installed at 380 MW_{el} units in the world's largest lignite-fired power station, located in Poland. On one of the units primary measures were installed years ago, aiming to meet the current EC NO_x limit of 200 mg/Nm³. On the other unit no primary measures have been installed yet. ERC Technik's SNCR plants demonstrate the ability to meet the European standard even starting from a higher baseline level and on the other hand, that it is possible to further reduce NO_x, even below the expected NO_x limit value for lignite power plants as per the updated BREF.

Experiences and operational results will be shown during the presentation.