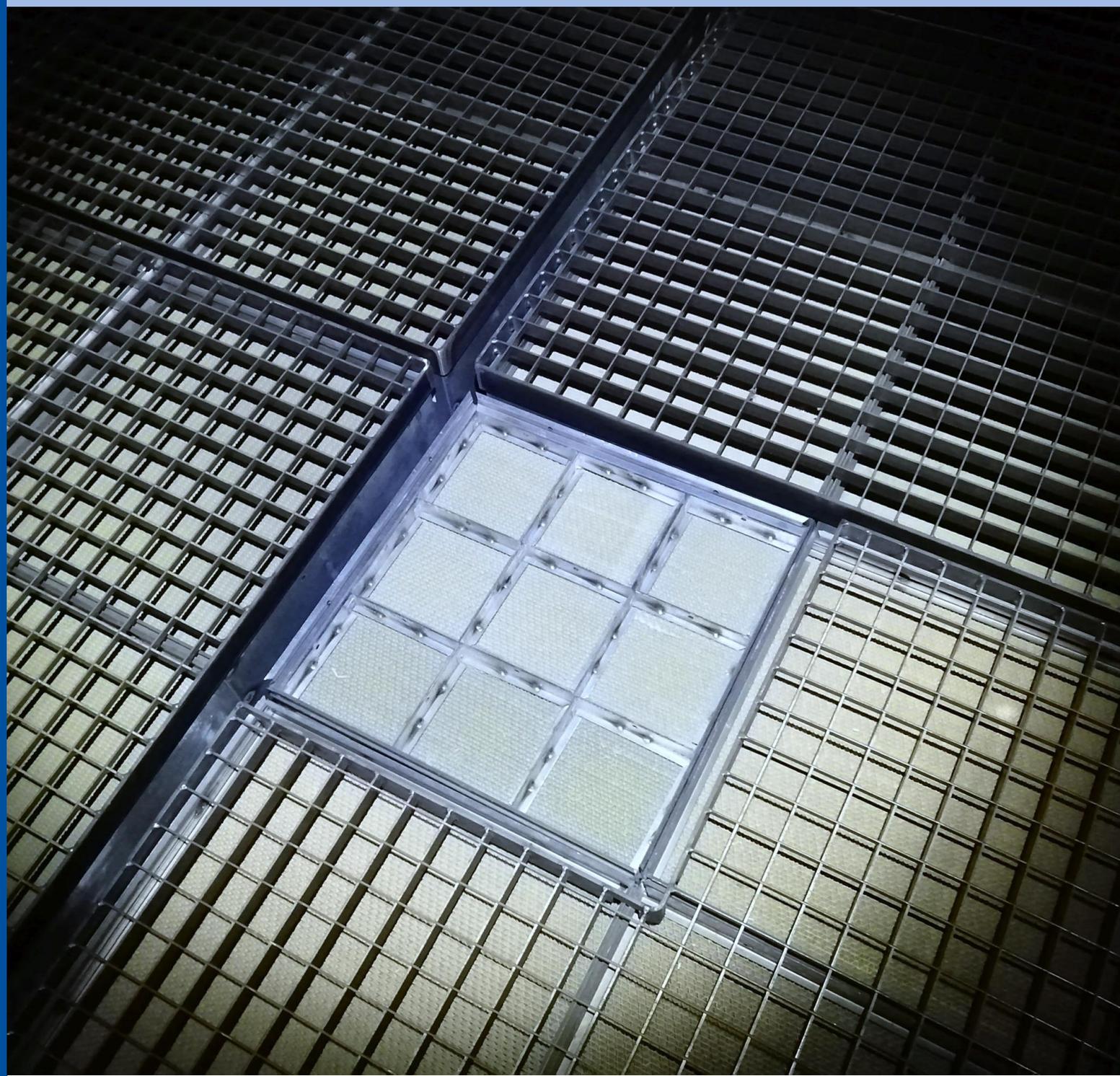


**thyssenkrupp Steel Europe AG / VPC GmbH  
SCR RETROFIT ON POWER PLANT  
“HERMANN WENZEL” UNIT IV, DUISBURG-RUHRORT**



## thyssenkrupp Steel Europe AG / VPC GmbH



Performance Data			
	Mixed operation	Coke gas, only	Coke gas Blast furnace gas min BK2
<b>NOx raw gas (mg/Nm<sup>3</sup>)</b>	220	420	600
<b>Warranty value NOx outlet Cat. (mg/Nm<sup>3</sup>)</b>	100 (dry, 11 Vol% O <sub>2</sub> )		
<b>NH<sub>3</sub>-Slip (mg/Nm<sup>3</sup>)</b>	< 5 (dry, 11 Vol% O <sub>2</sub> )		
<b>RG-Volume flow (Nm<sup>3</sup>/h)</b>	650.000	299.000	311.000
<b>NH<sub>4</sub>OH-Evaporator</b>	NH4OH Spraying evaporator in electrical pre-heated carrier gas		

### THE TASK

thyssenkrupp Steel Europe AG operates the gas-fired "Hermann Wenzel" power plant with a total of four units at the Duisburg-Ruhrort location. Unit IV is operated in mixed mode with blast furnace gas and coke oven gas. In order to match the nitrogen oxide emissions in accordance with the emission directives, a nitrogen oxide reduction system had to be retrofitted

### THE SOLUTION

To reduce nitrogen emissions, an SCR system was retrofitted in Unit III. In addition to the integration of the new SCR reactor, the scope of supply included the provision and supply and storage of the reducing agent up to the injection into the flue gas path, including the associated piping, control and measurement technology.

In order to ensure safe load transfer, the loads of the SCR in unit IV had to be transferred directly into the building's main supports or the foundation soil via additional structures. Compliance with the required denitrification rate is achieved with only one layer of SCR catalyst.

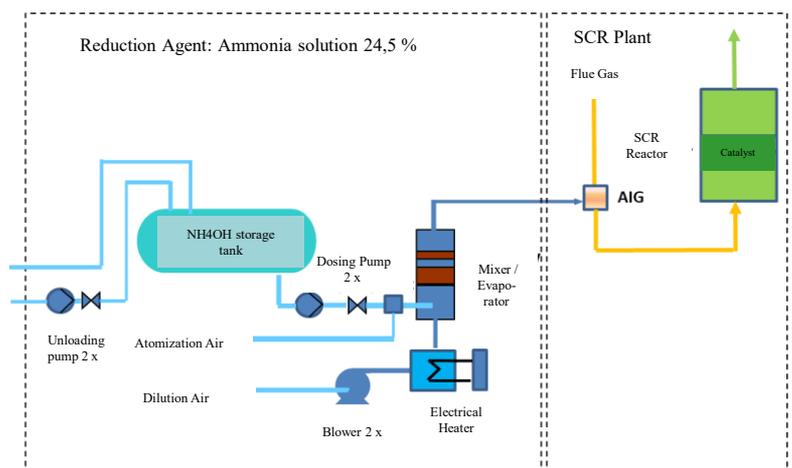
The catalyst level can be walked on. The integration of the SCR system into the existing power plant boilers worked perfectly. The stricter emission values are reliably maintained.

### SCOPE OF SUPPLY

- Unloading pump skid and storage tank
- Transfer pump skid
- SCR Reactor
- DeNOx Catalyst cassettes
- Reducing agent ammonia injection grid
- Carrier gas blower-/ Evaporator skid consisting off
  - Electrical heater to preheat the carrier gas
  - NH4OH Spray Evaporator
- Instrumentation and plant control system

### ENGINEERING SERVICES

- Engineering
- Manufacturing and delivery
- Assembly supervision
- Commissioning



SCR Unit – Process Flow Sheet Block IV