

Diploma Thesis Assignment

Student: **Al Ameen Ashik Mohamed Rabeek**

Study Programme: N0713A070003 Energy Engineering

Title: **Design of Basic Technological Units of SCR Technology for Flue Gas Denitrification**
Návrh základních technologických celků technologie SCR pro denitrifikaci spalin

The thesis language: English

Description:

Design a technology concept for the SCR (Selective Catalytic Reduction) flue gas denitrification method for a given flow rate, flue gas composition and required NO_x output concentration from gaseous fuel combustion.

The components of the design will include:

- a review of the basic knowledge of fossil fuel combustion flue gas denitrification technologies
- design of basic reactor dimensions
- basic conceptual design of the reactant feed system based on the consumption calculation
- basic conceptual design of the system for homogenization of the concentration field and velocity field of the flue gas before the catalytic bed

References:

- [1] Final Technical Working Group meeting for the review of the Large Combustion Plants (LCP) BREF.
- [2] Commission Implementing Decision (EU) 2017/1442 of 31 July 2017 establishing best available techniques (BAT) conclusions, under Directive 2010/75/EU of the European Parliament and of the Council, for large combustion plants (notified under document C(2017) 5225) (Text with EEA relevance.) C/2017/5225
- [3] BLEJCHAŘ, T.: *Návody do cvičení „ Modelování proudění “-CFX*. 1. vyd. Ostrava: VŠB - Technická univerzita Ostrava, 2009. ISBN 978-80-248-2050-7.
- [4] VEJVODA, J., MACHAČ, P., BURYAN, P.: *Technologie ochrany ovzduší a čištění odpadních plynů*. VŠCHT Praha, 2003. ISBN 80-7080-517-X.

Extent and terms of a thesis are specified in directions for its elaboration that are opened to the public on the web sites of the faculty.

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