5 Conclusion and Outlook

A modeling framework for coal fired furnaces was described which can be used for dynamic simulations of steam power plants. The new Modelica components serve as an extension to the existing SiemensPower library.

Further validation is needed for transient operation. The next step would be to attach evaporator tubes and super-heaters in order to compare the model to dynamic simulation results and measurements.

References

[1] Franke, Rüdiger ; Casella, Francesco ; Otter, Martin ; Sielemann, Michael ; Elmqvist, Hilding ; Mattson, Sven Erik ; Olsson, Hans: *Stream Connectors – An Extension of Modelica for Device-Oriented Modeling of Convective Transport Phenomena*. In: Proceedings of the 7th International Modelica Conference, September 20th-22nd, 2009, Como, Italy, p. 108-121.

[2] Franke, Rüdiger ; Casella, Francesco ; Sielemann, Michael ; Proelss, Katrin ; Otter, Martin ; Wetter, Michael: *Standardization of Thermo-Fluid Modeling in Modelica.Fluid*. In: Proceedings of the 7th International Modelica Conference, September 20th-22nd, 2009, Como, Italy, p. 122-131.

[3] VDI-Gesellschaft Verfahrenstechnik und Chemieingenieurwesen (Ed.): *VDI-Wärmeatlas*. Ed. 10. Berlin : Springer, 2006.

[4] Gall, Leo: *Dynamic Modeling of Fired Steam Generators*. Erlangen, Germany: Diploma thesis, Technische Universität München, 2010.

[5] Dassault Systèmes AB: *Dymola Version 7.4*. `http://www.dymola.com`

[6] Spliethoff, Hartmut: *Power Generation from Solid Fuels*. Berlin : Springer, 2010.