Dynamic Behavior of Syngas Treatment Process in IGCC Power Plant

ANDIKA RIEZQA, 최봉구, Yuli Amalia Husnil, Feng Wei,
Jeon Jinhee[1], 이문용*
영남대; [1]Doosan Heavy Industries & Construction
(mynlee@ynu.ac.kr*)

Nowadays, coal becomes a key component of the energy source worldwide since it is the most abundant fossil fuel. Unfortunately, coal is the dirtiest fossil fuel so its environmental footprint needs to be reduced using a better technology. Integrated Gasification Combined Cycle (IGCC) serves the need of cleaner energy. This paper focuses on the dynamic behavior of syngas treatment process in IGCC power plant. The failure of the syngas treatment process will lead to performance reduction in the power block process. To avoid the process failure, a sophisticated process operability is needed to ensure the process can cope with inevitable disturbances. A dynamic model of the syngas treatment process was developed using Aspen Hysys®. “This work was supported by the Development of 300MW Class Korean IGCC Demonstration Plant Technology of the Korea Institute of Energy Technology Evaluation and Planning (KETEP) and Doosan Heavy Industries & Construction granted financial resource from the Ministry of Trade, Industry and Energy, Republic of Korea (2011951010001A).”