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Title of Paper	**Distributed power generation system with small nuclear units**
Names(s) of Author(s)	Sang-Seung Lee*, Jong-Keun Park**, and Goon-Cherl Park**
Affiliation(s)	* Korea Electrical Engineering & Science Research Institute ** Seoul National University Shinlim-9Dong, Kwanak-Gu, Seoul, 151-742, Rep. of Korea.

In this paper, we will be introduce a new paradigm for energy supply system in near future which produces electric and district heat cogeneration with dispersed power grid with small nuclear power units. Recently, in nuclear field, a lot of effort has been done in nuclear major countries to develop small and medium reactor for enhancement of nuclear peaceful use as like in district heating, electric power generation, seawater desalination or hydrogen generation.

In Korea, KAERI (Korea Atomic Energy Research Institute) has been developing an integral type nuclear cogeneration reactor, SMART (System-integrated Modular Advance ReacTor) since 1996 (Chang et al., 1999). SMART is a modular pressurized water reactor and it is expected to be used for dual-purpose applications of seawater desalination and small-scale power generation. It has a capability to produce the fresh water of 40,000 tons per day and the electricity of 90 MW. The designed life of SMART is 60 years and the target for the operating rate is 95% (Chang et al., 2002). Since SMART will be located relatively near the residential area, SMART should have highly enhanced safety characteristics compared with current NPPs (Nuclear Power Plants). This paper presents the distributed & remote cogeneration system using small reactor, which connects and supports main power distribution grids or island areas of maintaining Korea Electric Power Corporation (KEPCO).

***Keywords*: Small reactor, SMART-P, Distributed & remote cogeneration system, Power system interconnection**

Corresponding Author	Name	**Sang-Seung Lee**	E-mail	**ssLee6@snu.ac.kr**
	Phone Number	+82-2-880-7586 (pcs) 019-212-8462	Fax. Number	+82-2-883-0827
	Address	PSRD, KESRI (Electrical Engineering & Science Research Institute) 130-Dong, Seoul National University, San56-1, ShinLim-9Dong, Kwanak-Gu, Seoul, 151-742, Korea		