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## Safeguarding Pyroprocessing Related Facilities in the ROK

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Pyroprocessing technology is being investigated by a number of countries as a promising strategy to the sustainable development of nuclear energy production and management of spent nuclear fuel as one electrochemical recycling process. As one of them, the Republic of Korea (ROK) has been developing technical aspects of pyroprocessing since 1997. To date, the ROK has established three pyroprocessing related facilities at the Korea Atomic Energy Research Institute (KAERI) site.

The IAEA's safeguards system provides the international community with credible assurances regarding a State's fulfilment of its safeguards obligations. Developing safeguards approaches for pyroprocessing facilities in a State is an integrated process consisting of acquisition path analysis (APA), establishment and prioritization of technical objectives (TO) and identification of applicable safeguards measures.

This paper presents the basic principles of safeguards implementation at pyroprocessing related facilities in the ROK which takes into account the specific nature of the process and the nuclear materials involved, and it outlines how new monitoring equipment have been tailored for safeguards purposes. The demands for robust safeguards applied to pyroprocessing facilities require the IAEA to develop new measures/techniques to complement the more traditional safeguards systems such as containment and surveillance (C/S). As an example, a bus bar system has been designed and developed to support evaluation of the facility operators' declarations by monitoring the electrical current supplied to the electro-reduction and the electro-refining equipment.

### Country or International Organization

IAEA and the Republic of Korea

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