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Science and Technology of Nuclear Installations

Science and Technology of Nuclear Installations
Volume 2008 (2008), Article ID 932319, 1 page
doi:10.1155/2008/932319

Editorial

Natural Circulation in Nuclear Reactor S

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Received 2 April 2008; Accepted 2 April 2008

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It gives us great pleasure to bring out this special issue on “Nat
assumes special significance in the context of present energy tec
about 15% of total world electricity. However, public concern a
sociopolitical constraints on its use in some countries. Now a world
which is caused mainly by the following factors: (a) progressively
rooted concern about global warming, (c) increasing oil price, ar
factors are leading to rising expectations for nuclear energy for the

For the sustenance of this renewed interest, besides fuel resource,
leading to the development of advanced reactor designs as well a
these advanced reactors and fuel cycle concepts are addressing,
high level of safety, waste disposal, environmental effects and prol

An important feature of several advanced reactors designs is the
conference on “The Safety of Nuclear Power: Strategy for the F
new plants “the use of passive safety features is a desirable me
reliability of the performance of essential safety functions and shc
designers select active safety systems, passive safety systems,
safety functions with sufficient reliability, and the impact on plant
incorporated in advanced reactors employ natural circulation a
importance of natural circulation in nuclear reactor design

By definition, natural circulation is a process in which the fluid motion is driven by a source of energy. However, the driving head for natural circulation changes in operating conditions. Sometimes the flow is not fully developed, and these have led to the need of thoroughly understanding the physics of natural circulation systems. This has necessitated dissemination of knowledge. This special issue is a timely and very effective step in this direction.

The papers in this issue cover most of the important aspects of natural circulation: experimental investigations, development of performance evaluation methods, and the reliability of natural circulation systems.

This issue has been a modest effort to bring to the readers an overview of the state of the art. We are sure that the readers of this issue will find it useful and will explore further in this area.

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