framatome

Secondary-Side Bleed and Feed

Re-establishing Residual Heat Removal from the Reactor Core

Our Secondary-Side Bleed and Feed Solution strengthens the robustness of your nuclear power plant (NPP) by preventing core melt at high pressure.

Challenge

A total loss of feedwater supply or station blackout will quickly result in core melt (at high pressure) if residual heat removal from the reactor core is not re-established in good time. The necessity to strengthen the robustness of NPPs even for beyond-design-basis accident scenarios has come to the fore in recent years. Relevant regulatory requirements have been tightened up worldwide. Additionally, these increased safety requirements have to be met in case of lifetime extensions or power uprates.

Pressurized water reactors have to cope with the accident scenario of two general, enveloping scenarios without core cooling:

- Total station blackout (total loss of on-site AC power supply)
- Failure / inoperability of the entire feedwater supply.

Solution

The Secondary-Side Bleed and Feed Solution allows plants to cope with a scenario of total loss of feedwater supply or station blackout thus reducing the core melt probability.

The installation of the Secondary-Side Bleed and Feed Solution (together with the related emergency operating procedures) enables core cooling to be re-established even under conditions

- in which the stationary feedwater systems of the steam generators cannot be used
- in which operating conditions for the residual heat removal system are not met.

Technical information

The scope of supply and services for the Secondary-Side Bleed and Feed Solution includes:

- Complete multidisciplinary engineering packages (from conceptual design to final implementation on site)
- Procurement
- Testing and evaluation
- Hardware supply
- Licensing support
- On-site installation and commissioning
- Final system handover to the client.

Customer benefits

Implementing our Secondary-Side Bleed and Feed Solution helps to:

- Increase the reliability and safety level of your plant
- Prevent the deterioration of an incident into a (high-pressure) core damage scenario
- Allow heat removal by depressurizing to re-establish core cooling.

Your performance
is **our** everyday **commitment**

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