

Primary-Side Bleed and Feed

Re-establishment of Residual Heat Removal from the Reactor Core

Our Primary-Side Bleed and Feed Solution prevents a core melt at high pressure by strengthening the robustness of your nuclear power plant (NPP).

Challenge

A total loss of feedwater supply or station blackout lead in short term to (high pressure) core melt in case that residual heat removal from the reactor core will not be re-established. The necessity to strengthen the robustness of NPPs even regarding beyond-design-basis accident scenarios has come into focus. Respective regulatory requirements have tightened worldwide. Additionally, these increased safety requirements have to be met in case of a planned lifetime extension or power uprate.

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

- Total station blackout (total loss of AC power supply at the plant)
- Unavailability of the entire feedwater supply.

Solution

The Primary-Side Bleed and Feed Solution allows to mitigate a scenario of total loss of feedwater supply or station blackout thus reducing the core melt probability of a NPP.

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

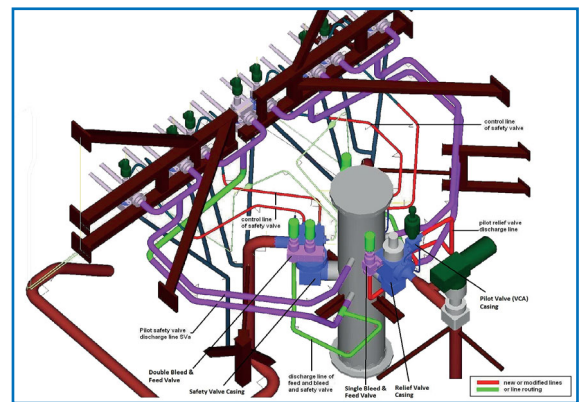
- where the stationary feedwater systems of the steam generators cannot be used
- where operating conditions for the residual heat removal system are not fulfilled.

Customer benefits

Implementing our Primary-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**



3D-modeling of pressurizer station

Technical information

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

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

Contact: integrated-systems@framatome.com
www.framatome.com

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