Severe Accident Management
Dedicated operating strategies for severe accident scenarios

In the case of a severe accident, operators and crisis teams must have clear, easy to use guidelines. Their purpose is to help mitigating the consequences of a severe accident and to minimize the release of radioactive substances.

Optimized and dedicated operating strategies
Focusing on existing nuclear power plants (NPPs), AREVA offers an integrated severe accident management package for the implementation or upgrade of Severe Accident Management (SAM) guidelines and procedures, including:

• Optimization of operational concept considering dedicated severe accident systems already installed in a plant
• Plant specific analyses of severe accident scenarios using MELCOR and MAAP codes

• Elaboration of appropriate accident management strategies (plant specific or generic)
• Establishment of computational aids to facilitate emergency response team (ERT) activities
• Implementation of typical post Fukushima-related topics, such as consideration of spent fuel pool (SFP) events
• Classroom training and emergency drills on SAM guidelines.

Principal workflow for the preparation of SAM guidelines and procedures

<table>
<thead>
<tr>
<th>Plant design data &amp; knowledge, operational documents (operating manual, testing manual)</th>
<th>Analyses of representative scenarios</th>
<th>Diagnosis / prognosis of plant stage</th>
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<tbody>
<tr>
<td>Specific plant model (computer codes)</td>
<td>Parameter calculations</td>
<td>Decision matrix</td>
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<tr>
<td>Deterministic analyses (probabilistic safety assessment level 1 &amp; level 2)</td>
<td>Efficiency conditions</td>
<td>Accident management strategies</td>
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<td>Hardware &amp; instrumentation (esp. SAM related)</td>
<td>Result analyses</td>
<td>Computational aids, prognosis tools</td>
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<tr>
<th>SAM manual (strategies)</th>
<th>SAM manual (background)</th>
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<tr>
<td>Diagnosis &amp; prognosis, decision matrix</td>
<td>Core melt phenomena</td>
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<tr>
<td>Strategies &amp; dedicated measures</td>
<td>Result analyses</td>
</tr>
<tr>
<td>Calculation aids</td>
<td>Strategies &amp; measures</td>
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<td>Efficiency of measures</td>
<td>Emergency response team training</td>
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</tbody>
</table>
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**Licensing/standard compliance:**
- Compliance with IAEA guides and recommendations and European standards

**References**
- All German pressurized water reactors (PWRs) and boiling water reactors (BWRs) in operation
- Further NPPs in Europe and South America

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**Your benefits**
- Clearly structured and approved guidelines, adjustable to existing power plant design
- Easy decision making for emergency response teams: accident management measures prioritized correlating to plant status
- Computational aids which complement information available from instrumentation and monitoring systems

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Are you interested in AREVA’s Severe Accident Management solutions?

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Contact us for more information:
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