

IAEA International Experts' Meeting on Severe Accident Management in the Light of the Accident at the Fukushima Daiichi Nuclear Power Plant

Human and Organizational Considerations in Severe Accident Management

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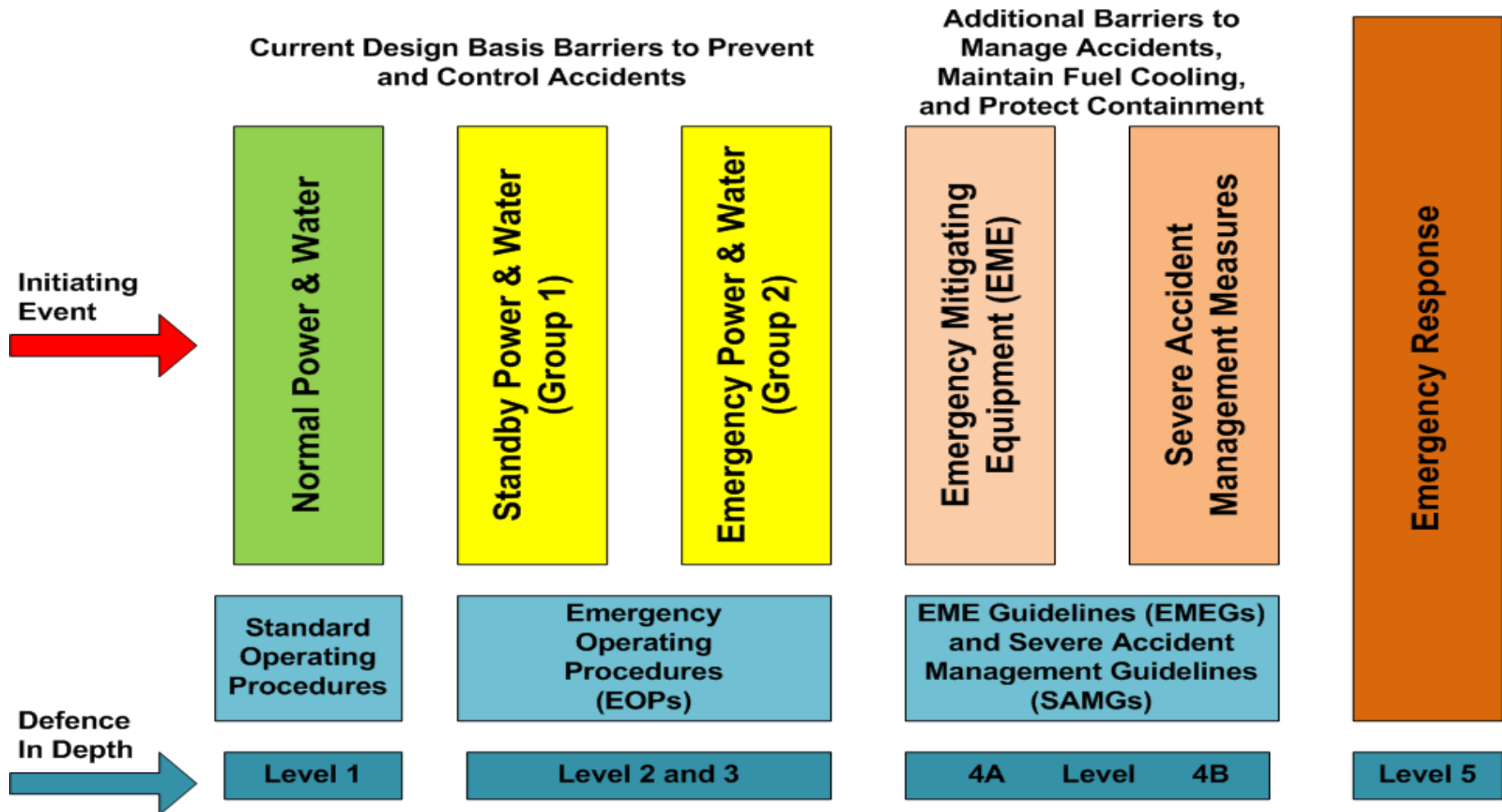
March 2014

Canadian Chief Nuclear Officer Objective for Beyond Design Basis Events

Practically eliminate the potential for societal disruption due to a nuclear incident by maintaining multiple and flexible barriers to severe event progression

Framework for Accident Prevention, Control and Management

Multiple barriers to event progression, and multiple means to supply cooling water and electrical power are in place to ensure adequate defences under BDBA.



Principles in Action – Multiple Barriers



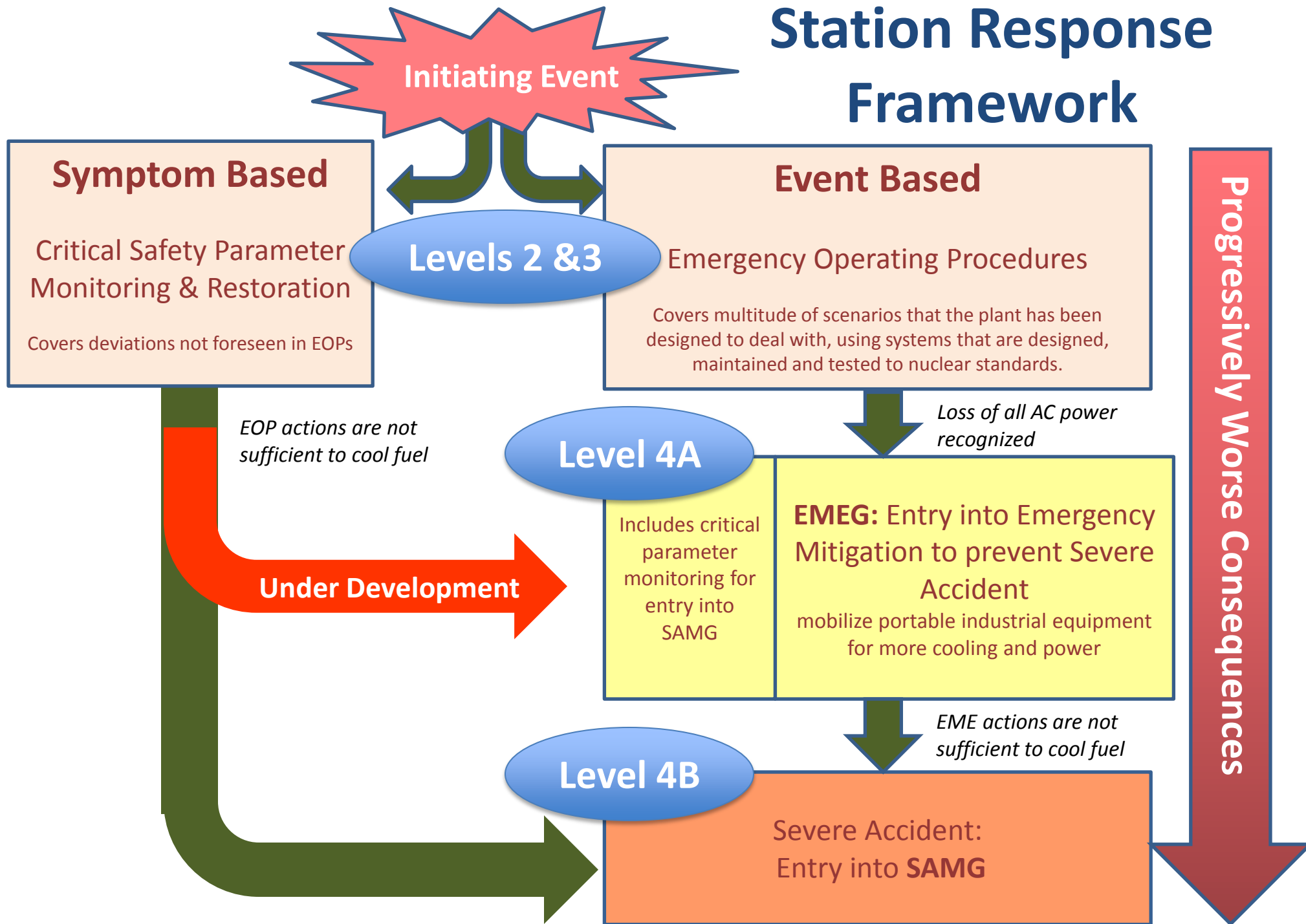
Supply water to
CANDU heat
sinks with
portable pumps



Heat Transport Steam Generators Moderator Shield Tank



Station Response Framework



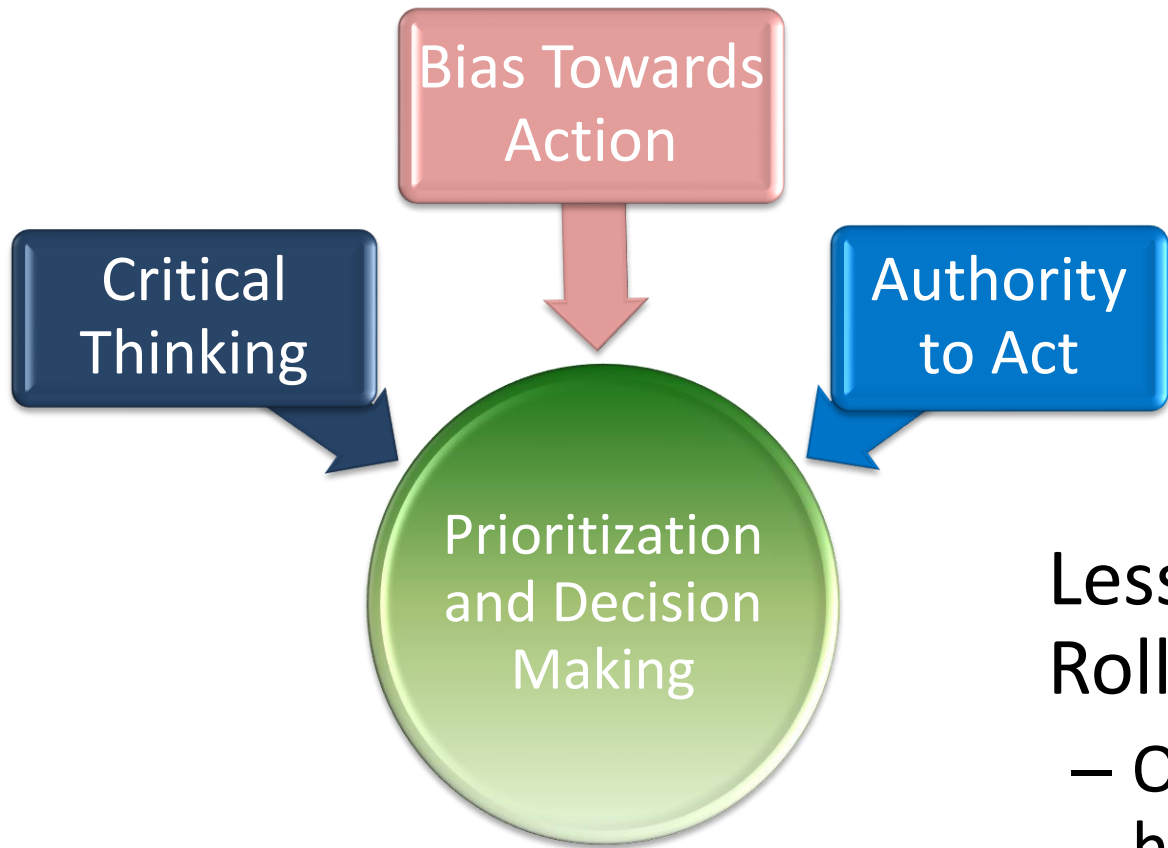
The plant may become an unfamiliar place...

Fukushima Daiichi
March 2011



Rule-Based Decision Making may cease to be an option

From Rule-Based to Knowledge-Based



Lessons Learned from Roll-Outs

- Operating crews are hungry for the discussion
- Continue to improve critical thinking

Enhancing Response Capability Through Standardized Equipment, Staging, Quick Connects, Simplification



← Before



After →



Additional Human and Organizational Aspects

- Medical Support
- Family Support
- Emergency Radiological Exposure Planning
- Enhancing realism of drills / exercises

SUMMARY

- Canadian utilities are continuing to build a Strong and Sustaining Nuclear Safety Culture.
- Expectations of staff are clear with an overall objective to “Practically Eliminate the Potential for Societal Disruption”.
- A framework has been established to provide staff with the processes, capability and authority to act.
- In all that we do, we include human and organizational performance as a cornerstone.