

# Critical Tasks – Simulator Scenario Development

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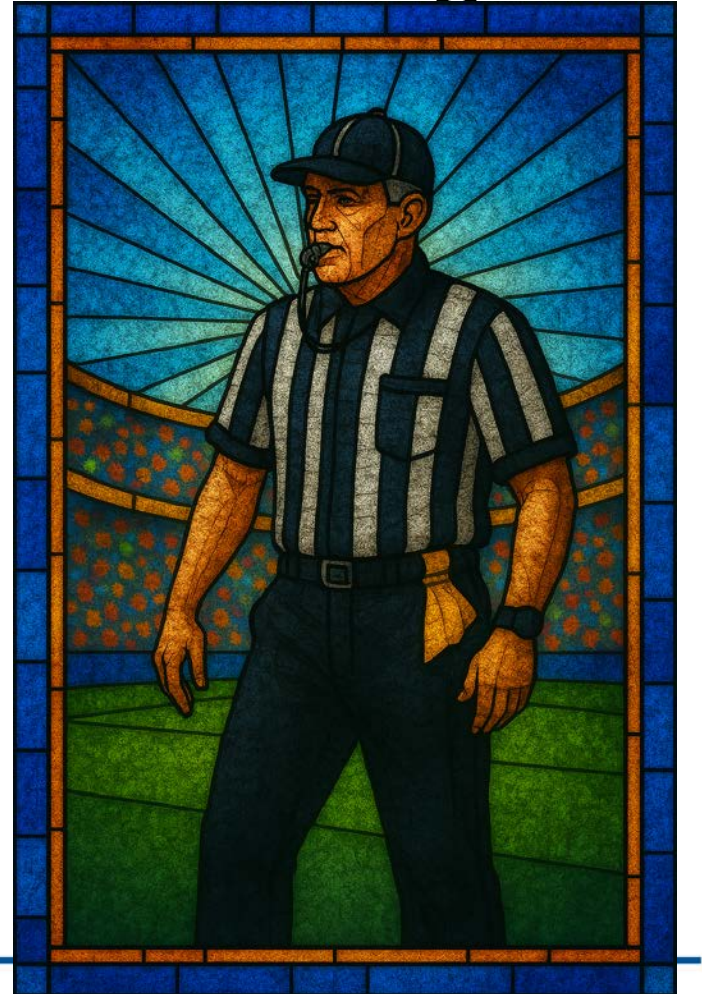
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# Agenda

- History
- Elements
  - Boundary Conditions
- Examples

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The NRC prescribes  
uniform conditions for licensing.



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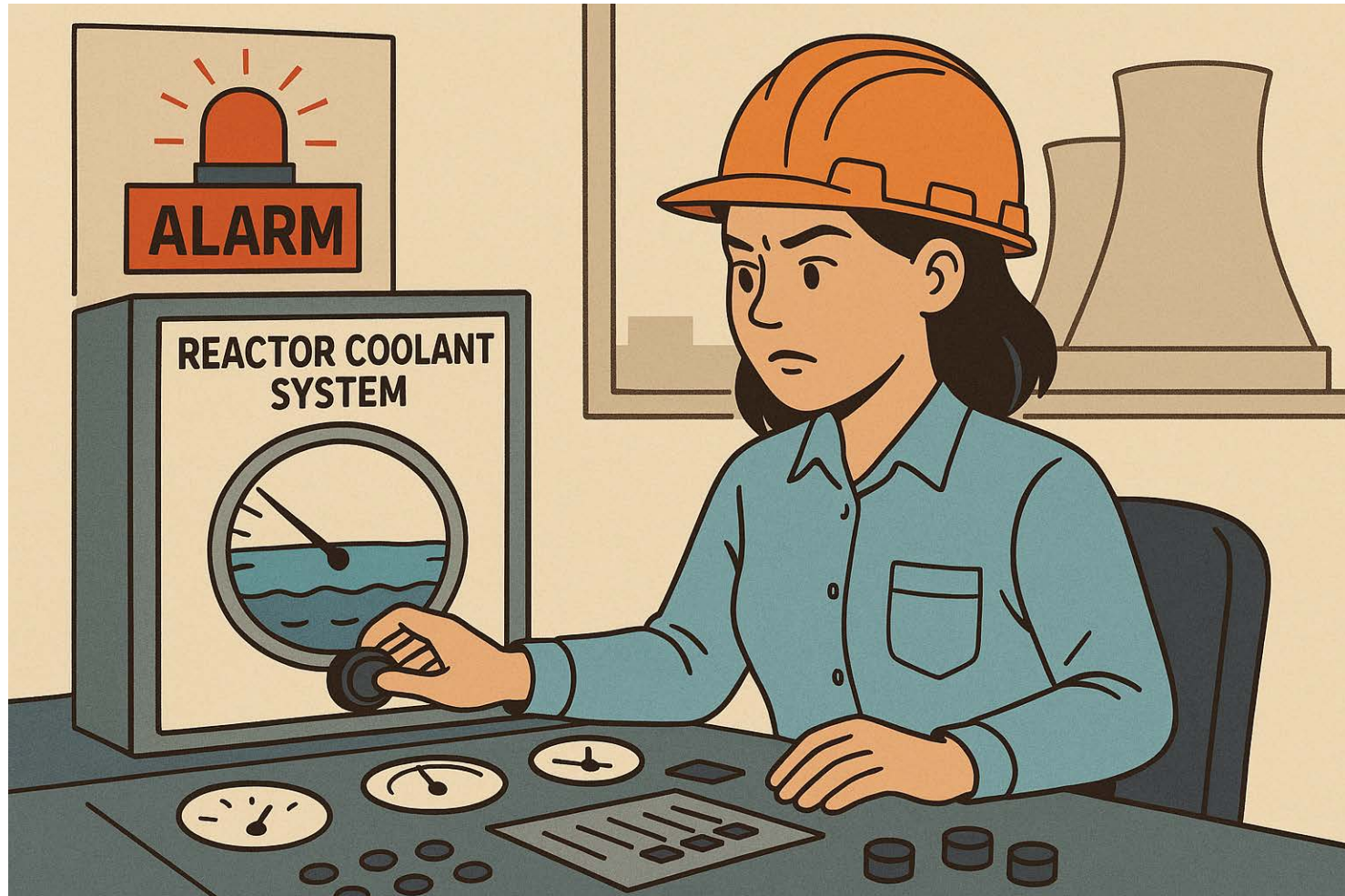
A CT must be safety-significant for the specific plant and specific scenario.



# CT Element 1: A cue



# CT Element 2: Feedback



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# CT Element 3: A success path



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# CT Element 4: Expected actions and documented objective boundaries

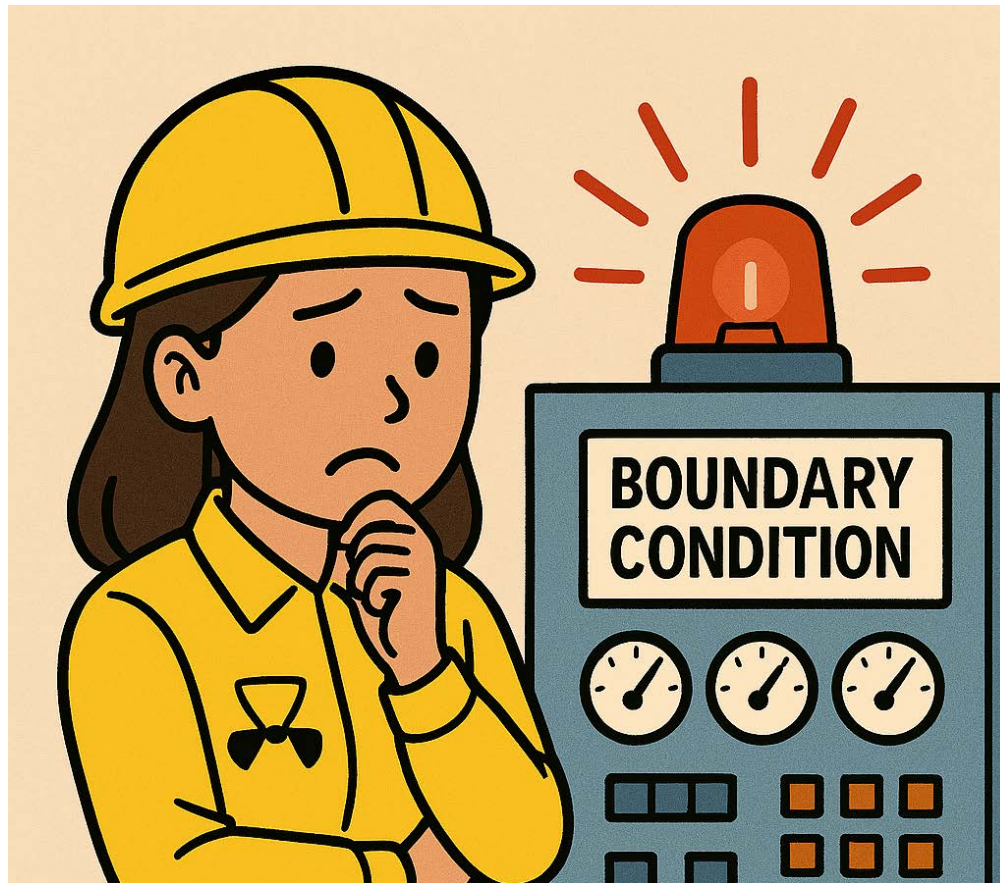


Boundary conditions (goal lines) define success and define failure.



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# Feedback is NOT required for Boundary Conditions.



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# Set the goal line for competent applicants, not heroes.



The crew must be able to fail.



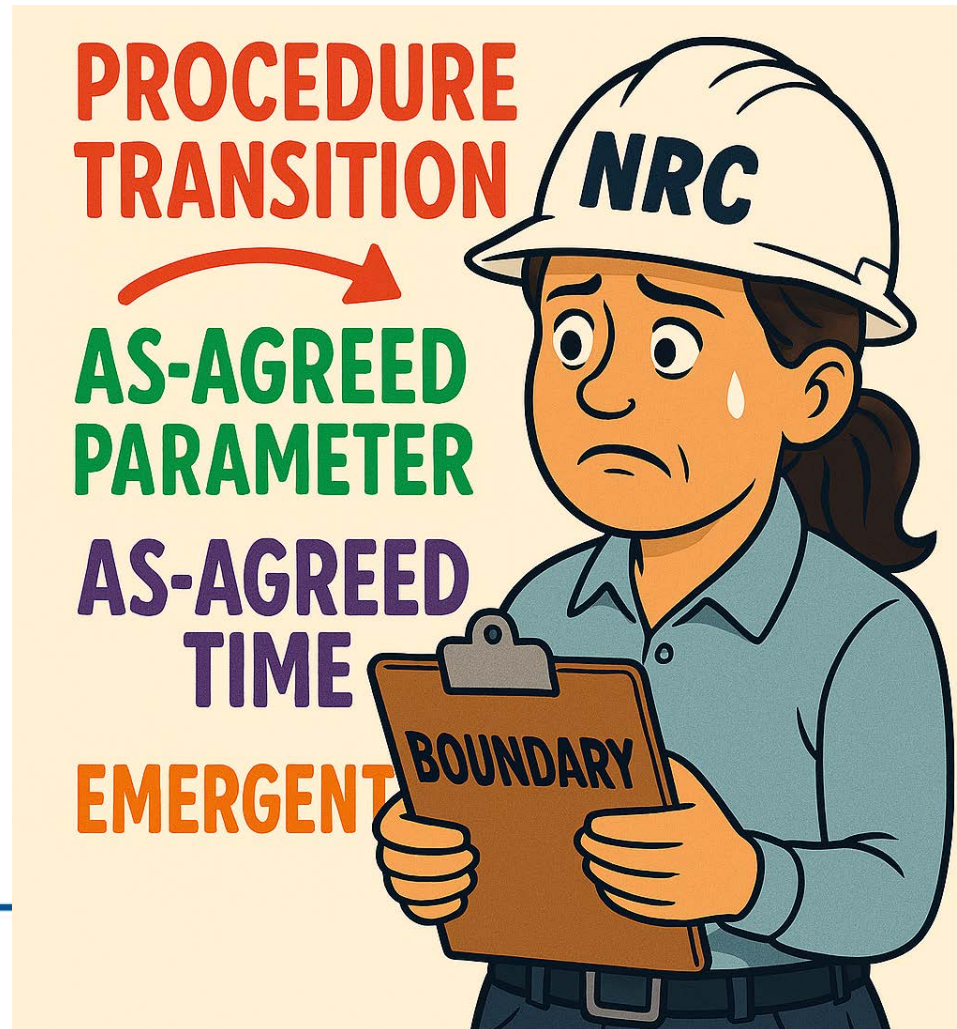
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# Try to write preferred boundary conditions



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# Alternative boundary conditions are acceptable.



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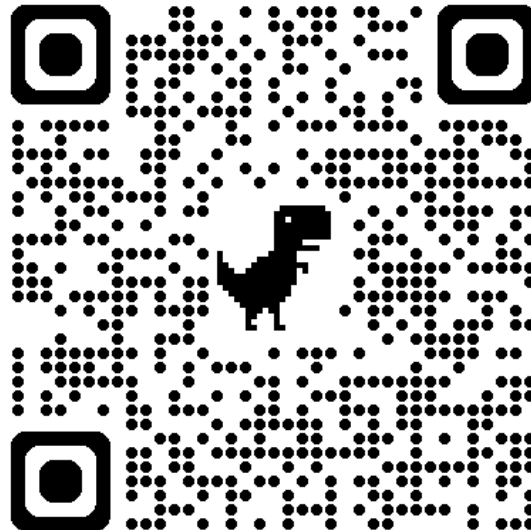
# Document an objective justification for boundary criteria, especially alternative BC.



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# Operator Licensing Program Feedback (OLPF) document

<https://www.nrc.gov/reactors/operator-licensing/prog-feedback>



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# Critical Task Example 1

- Critical Task: Un-isolable Torus water leak and unable to maintain Torus level above 10.75'. HPCI must be tripped before Torus water level lowers below 9.58'.

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# Critical Task Example 1

- Safety Significance: HPCI operation with Torus water level below 10.75' would result in introduction of steam from the HPCI exhaust into the Torus airspace...

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# Critical Task Example 1

- Measurable Performance Standard: Manipulation of the HPCI trip pushbutton will provide observable actions for the evaluation team. **Boundary Conditions?**
- Justification?**

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# Critical Task Example 2

- Steam Generator Tube Rupture
  - Isolate SG
  - Cooldown RCS
  - Depressurize RCS

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# Critical Task Example 3

- Manually start RCIC prior to RPV water level reaching -162 inches Wide Range.

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# Critical Task Example 4

- CT at Facility #1: Isolate ruptured SG within 15 minutes of inadvertent opening of dump valve. (Criteria for SAE)
- CT at Facility #2: Isolate ruptured SG within 70 minutes of entry into tube rupture procedure. (FSAR assumption)

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## Critical Task Example 5

- An applicant inadvertently causes an SBO (not a post-scenario CT), and the plant automatically starts a cooldown (was going to be the CT). What do you do?
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# Thanks! Questions?



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