Enclosure 5 Regulatory Treatment of Nonsafety Systems (RTNSS) B Long Term Cooling (Redacted)

babcock & wilcox mPower, Inc., a Babcock & Wilcox company



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This is a pre-application document and includes preliminary B&W mPower Reactor design or design supporting information and is subject to further internal review, revision, or verification.



## Purpose/Objective

- Reiterate regulatory guidance for long-term core cooling
- Describe how B&W mPower<sup>TM</sup> plant assures longterm core cooling
- Identify B&W mPower nonsafety-related RTNSS "B" SSCs required for long-term core cooling
- Describe B&W mPower conformance with RTNSS
  "B" SSC design guidance
- Obtain NRC comments/feedback



## Long-Term Core Cooling Guidance

- At least first 72 hours after event
  - Onsite, safety-related, passive, automatically aligned
- 72 hours to 7 days
  - Onsite, nonsafety-related, RTNSS B
- >7 days
  - Onsite or offsite sources may be utilized, nonsafetyrelated



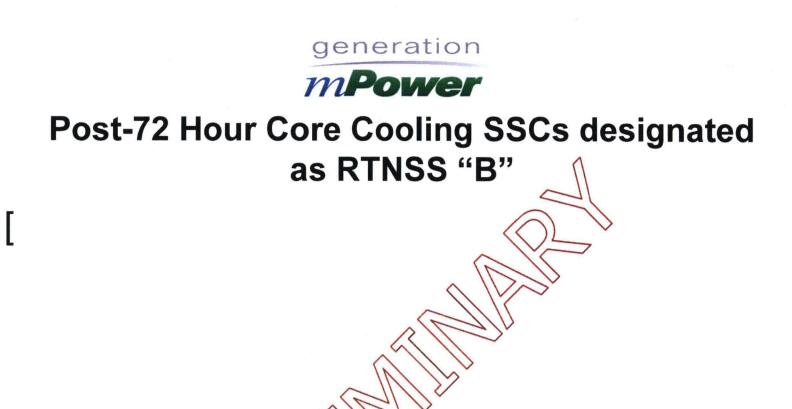
Long-Term (Post-72 Hour) Core Cooling Function

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[CCI per Affidavit 4(a)-(d)]

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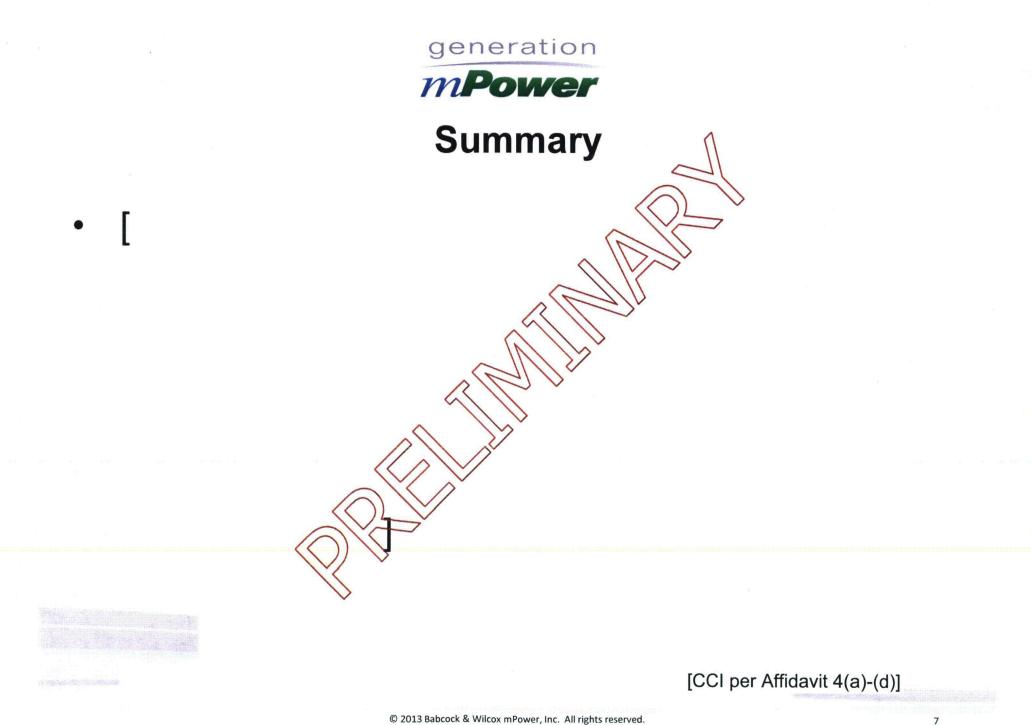
[CCI per Affidavit 4(a)-(d)]

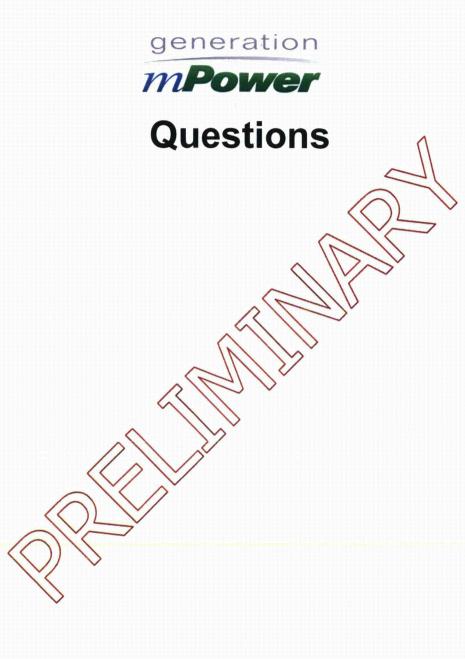
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## **Conformance with RTNSS B SSC Guidance**

- 72 hour to 7 day functions accomplished with installed, onsite SSCs and supplies
- SSCs designated as RTNSS B designed to Seismic Category II standards
- RTNSS B SSCs are located below grade in [
  - RSB is Safety-Related, Seismic Category I structure
  - Protected from hurricane winds
  - Protected from floods
- RTNSS B SSCs are capable of withstanding adverse effects associated with DBAs (e.g. turbine missiles, pipe whip)









## **Abbreviations / Acronyms**

RTNSS – Regulatory treatment of nonsafety systems PCC – Passive containment cooling system PCCT – Passive containment cooling tank ECC – Emergency core cooling system DW – Demineralized water system RWST – Refueling water storage tank IPIT – Intermediate pressure injection tank