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# Meeting the Requirements for “as-built” PRA

April 16, 2014

# Requirements for PRA before Initial Fuel Load

10 CFR 50.71(h)(1)

No later than the scheduled date for initial loading of fuel, each holder of a combined license under subpart C of 10 CFR part 52 shall develop a level 1 and a level 2 probabilistic risk assessment (PRA). The PRA must cover those initiating events and modes for which NRC-endorsed consensus standards on PRA exist one year prior to the scheduled date for initial loading of fuel.

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# Requirements for PRA before Initial Fuel Load

VEGP 3&4 License Conditions 12.G(7):

Review differences between the as-built plant and the design used as the basis for the AP1000 probabilistic risk assessment (PRA) and the AP1000 DCD, Rev. 19, Table 19.59-18. SNC shall evaluate the plant-specific PRA-based insight differences and shall modify the plant-specific PRA model as necessary to account for the plant-specific design and any design changes or departure from the PRA certified in Rev. 19 of the AP1000 DCD;

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# As-built definition

As-built, as-operated: a conceptual term that reflects the degree to which the PRA matches the current plant design, plant procedures, and plant performance data, relative to a specific point in time.

NOTE: At design certification stage, the plant is neither built nor operated. For these situations the intent of the PRA model is to reflect the “as-designed, as-to-be-built, and as-to-be-operated” plant.

\*As defined in ASME/ANS RA-Sa-2009, “Addenda to ASME/ANS RA-S-2008 Standard Level 1/Large Early Release Frequency Probabilistic Risk Assessment for Nuclear Power Plant Applications”

# Plan to meet the initial fuel load requirements

- Freeze point for development of plant-specific PRA model
- Review of differences between as-built plant and design used in AP1000 DCD Rev. 19
- Updates to the plant-specific PRA model as necessary

Note: Plant-specific PRA models, which are different from Design Certification PRA for AP1000, have been under development since fall 2010 and are expected to be completed in late 2015 or early 2016

# Freeze Point for PRA Development

- Freeze on design needed for development of detailed, plant-specific PRA model
- Some additional inputs available and incorporated after freeze point

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# Review of differences for as-built plant

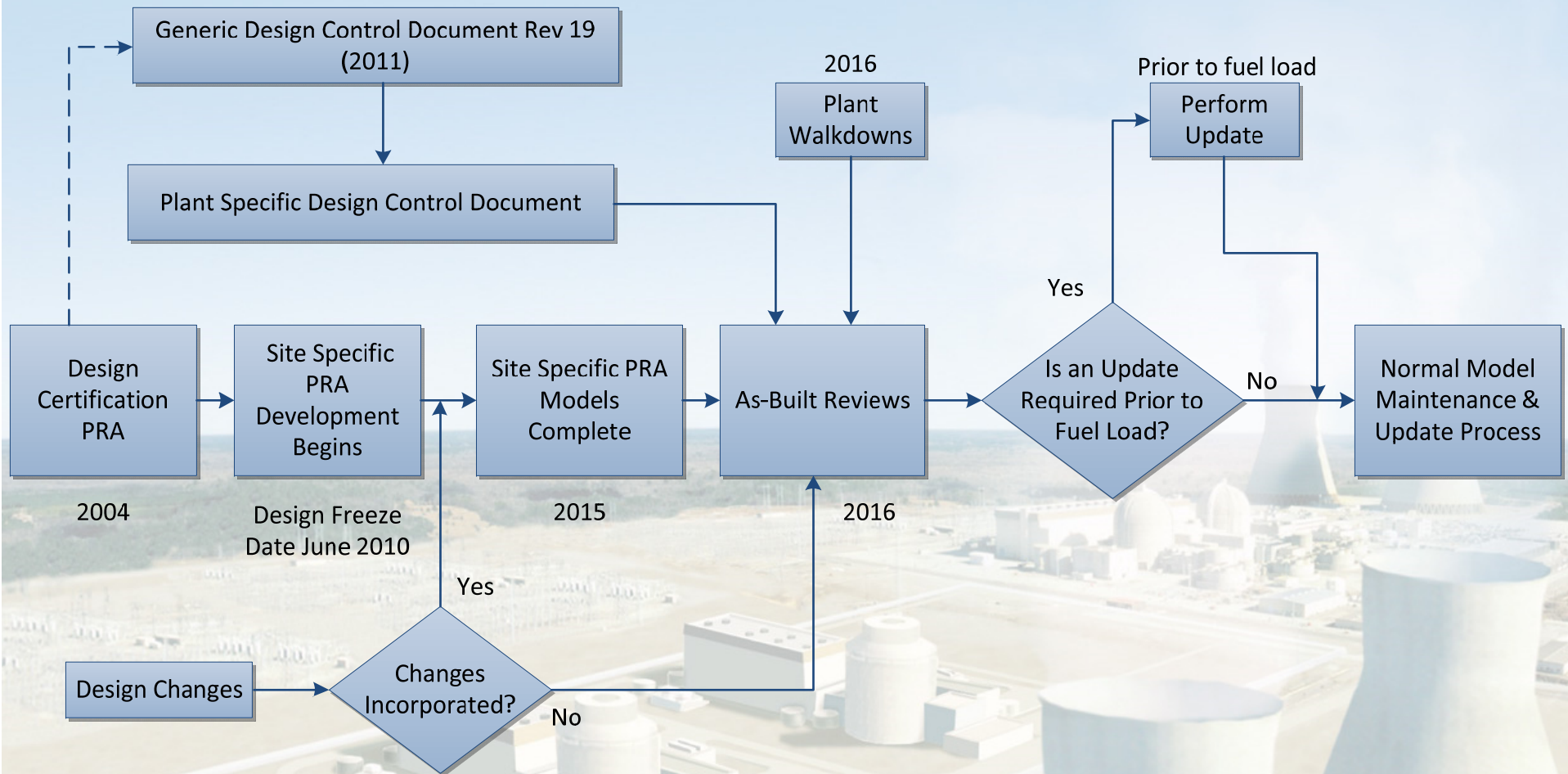
- Screening and review of design changes between freeze point and initial fuel load
- Walkdowns of plant

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# Process for PRA Update



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# PRA Requirements During Operations

10 CFR 50.71(h)(2)

Each holder of a combined license shall maintain and upgrade the PRA required by paragraph (h)(1) of this section. The upgraded PRA must cover initiating events and modes of operation contained in NRC-endorsed consensus standards on PRA in effect one year prior to each required upgrade. The PRA must be upgraded every four years until the permanent cessation of operations under § 52.110(a) of this chapter.

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# Timing for 50.71(h)(2) Requirements

- Starting of 4 year clock for PRA upgrade at initial fuel load
  - Alignment with milestone in 10 CFR 50.71(h)(1)

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