ENCLOSURE 2

M190157

Presentation Slides for Pre-Application Meeting for Planned Submittal of GE-Hitachi BWRX-300 Selected Topical Reports

Non-Proprietary Information - Class I (Public)

IMPORTANT NOTICE

This is a non-proprietary version of the Presentation Slides for Pre-Application Meeting for Planned Submittal of GE-Hitachi BWRX-300 Selected Topical Reports, from which the proprietary information has been removed. The header of each page in this enclosure carries the notation "Non-Proprietary Information." Portions of the enclosure that have been removed are indicated by an open and closed bracket as shown here [[ ]].

Pre-Application Meeting For Planned Submittal of GE Hitachi BWRX-300 Selected Topical Reports

September 26, 2019

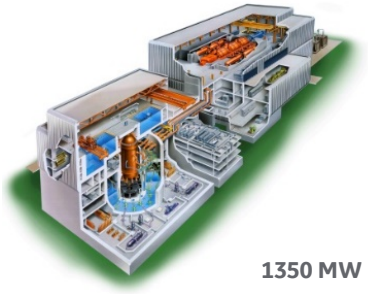
Pre-Application Meeting For Planned Submittal of GE Hitachi BWRX-300 Selected Topical Reports

Open Session

GE Hitachi Alliance … Continual Innovation

Gen III → Gen III+ → Gen IV

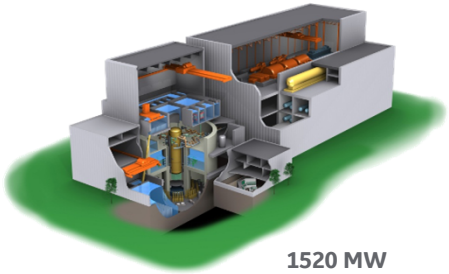
ABWR



1350 MW

Operational
Boiling Water Reactor

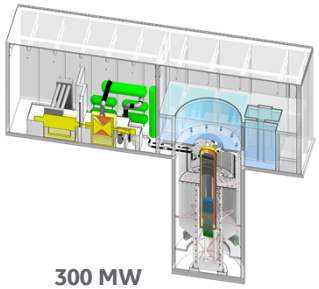
ESBWR



1520 MW

Evolutionary
Boiling Water Reactor

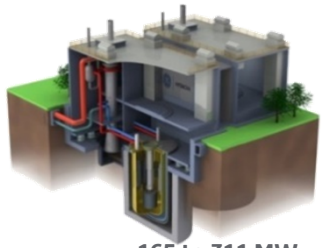
BWRX-300



300 MW

Innovative
Small Modular Reactor

PRISM



165 to 311 MW

Advanced
Non-Light Water Reactor

Continuous Experience

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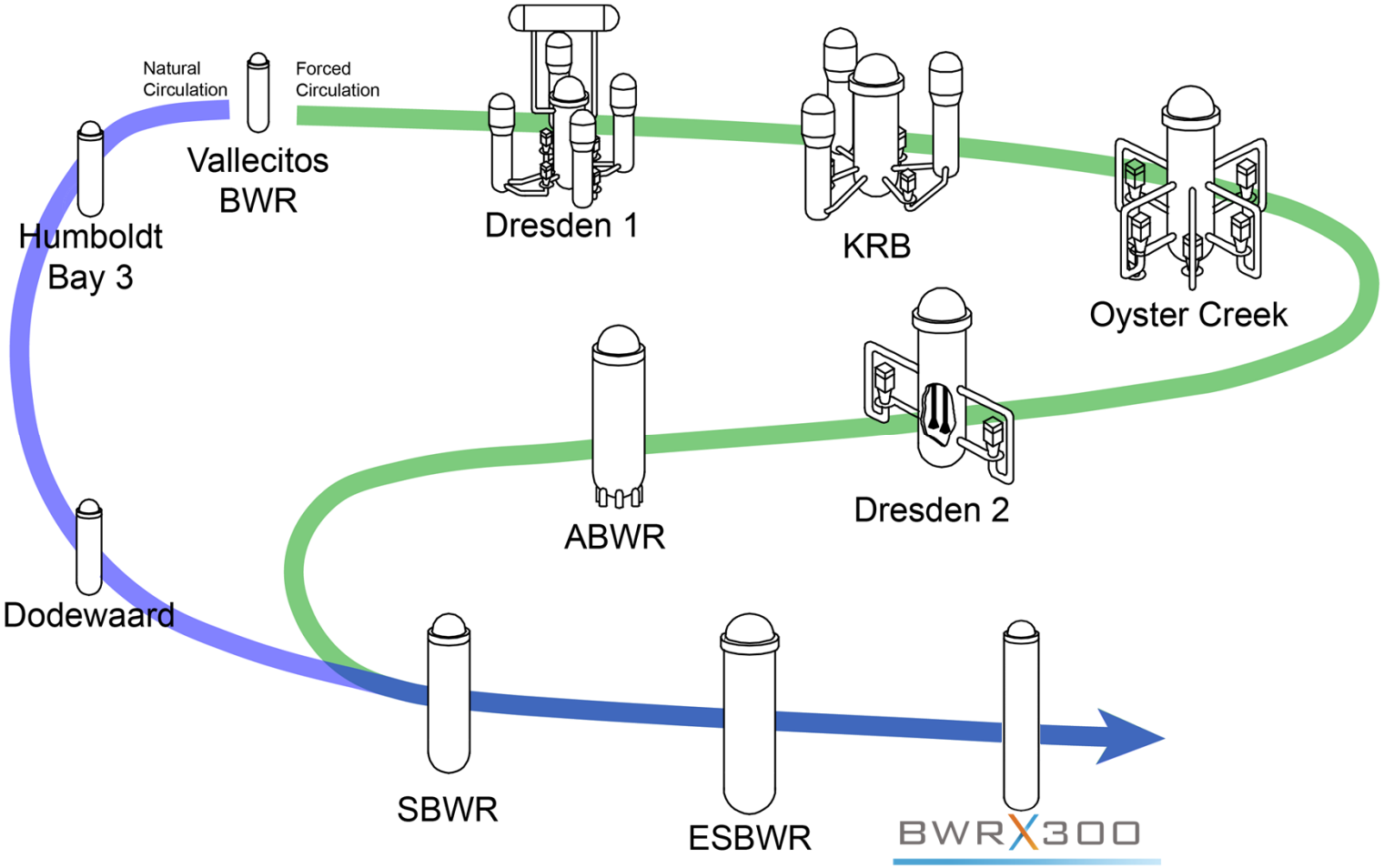
Boiling Water Reactor Evolution



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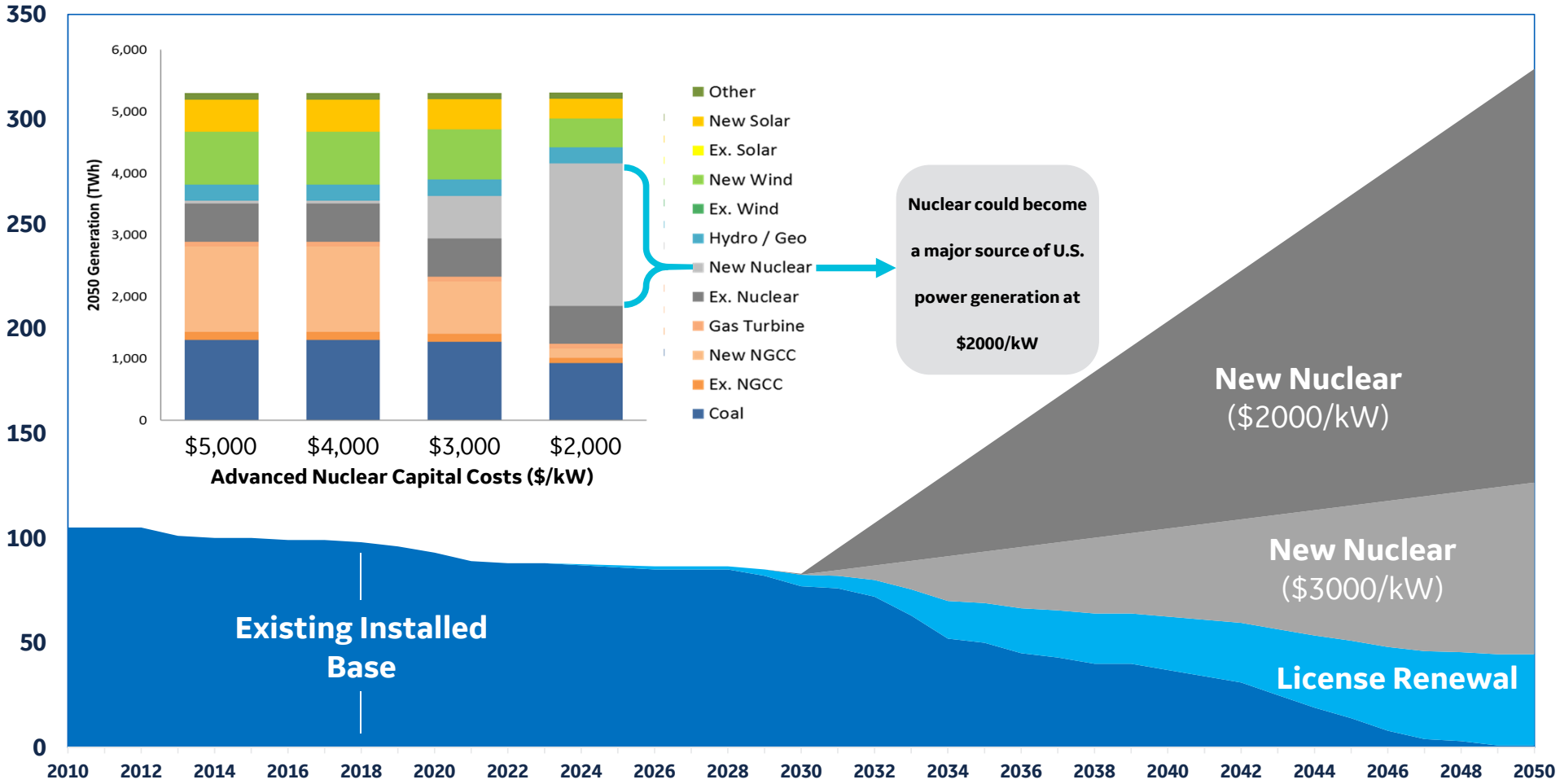
Nuclear Inflection Point

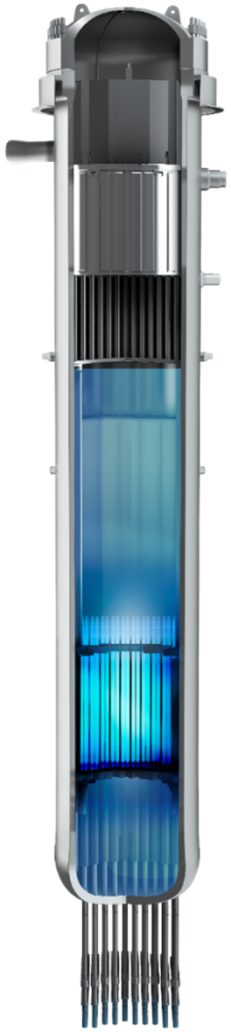


Source: Figure 3.2 from EPRI Report 3002011803: Exploring the Role of Advanced Nuclear in Future Energy Markets

BWRX300

- 10th generation BWR
- 300 MWe SMR
- World class safety
- LCOE competitive with gas
- Up to 60% capital cost reduction per MW
- Scaled from licensed ESBWR
- Designed to mitigate LOCA
- Reduced on-site staff and security
- Design-to-cost approach: <$1B total & <$2,250/kW
- Proven components, fuel, and supply chain
- Constructability integrated into design

Deployable by 2027



BWRX-300 Objectives

Gas-comparable LCOE
and lower capital cost

Proven components
Reactor design, fuel design and passive safety

Simplicity
Simpler to manufacture, construct, operate and maintain

Design Goals

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Proven Reactor Technology

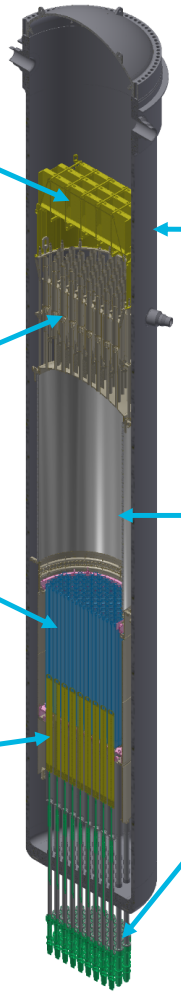
BWRX300

Dryer:
Same features as ABWR* & ESBWR …
Same as upgrades for existing fleet …
Size nearly identical to KKM**

Steam Separators:
Same as ABWR* & ESBWR …
Similar to others in the BWR fleet

GNF2 Fuel:
18,500+ bundles delivered …
Utilized by ~70% of BWR fleet

Control Rod Blades:
Same as ABWR* …
Longer than ESBWR …
Almost identical to latest design for BWR fleet



Reactor Pressure Vessel:
Same material and fabrication processes as ABWR*, ESBWR and many of the BWR fleet …
Diameter almost identical to KKM**

Chimney:
Uses ESBWR and Dodewaard*** technology …
Simplified

Fine Motion Control Rod Drives:
Same as ABWR* & ESBWR

* ABWR fleet has combined 22+ years of operating experience
** Kernkraftwerk Mühleberg (KKM): 355 MWe BWR/4 in operation since 1972
*** Dodewaard: 58MWe natural circulation BWR, 1969 ~ 1997

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Break

Pre-Application Meeting For Planned Submittal of GE Hitachi BWRX-300 Selected Topical Reports

Closed Session

Agenda

1. BWRX-300 Licensing Plan and Schedule
2. Design Objectives and Key Licensing Topics
3. Reactor Pressure Vessel Isolation and Overpressure Protection Design Features
4. Licensing Topical Report Objectives and Regulatory Basis

BWRX-300 Licensing Plan and Schedule

BWRX-300 Overall Licensing Plan and Schedule

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BWRX-300 Licensing Topical Report Purpose

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BWRX-300 Licensing Topical Reports

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BWRX-300 Licensing

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Design Objectives and Key Licensing Topics

BWRX-300 Design Goals

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Defense-in-Depth Concept

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Safety Assessment Framework

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ESBWR Probabilistic Risk Assessment Core Damage Frequency Contributors [[

BWRX-300 Innovations that Mitigate Loss of Coolant Accidents [[

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BWRX-300 Innovations that Mitigate Inadvertent Open Relief Valve [[

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RPV Isolation and Overpressure Protection Design Features

RPV Isolation

BWRX-300 Reactor Pressure Vessel

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Minimize the Probability of Coolant Loss

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Mitigating Loss of Coolant Accidents

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Reactor Pressure Vessel Assembly

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Reactor Pressure Vessel Isolation Valve Configuration

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Large Pipe Break Response

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Small Pipe Break Response

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Licensing Topical Report Contents Related to Reactor Pressure Vessel Isolation

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Overpressure Protection

Overpressure Protection

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BWRX-300 Overpressure Protection

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Isolation Condenser System Features [[

Licensing Basis Acceptance Criteria

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Licensing Technical Report Contents Related to Overpressure Protection

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BWRX-300 Licensing Topical Report Objectives – Approval of Regulatory Basis

BWRX-300 Licensing Topical Report Approval

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Closing Remarks and Questions