



Information Systems Laboratories, Inc.

Modeling of Boiling Water Reactors

Information Systems Laboratories, Inc.

Presented at

Nuclear Regulatory Commission
TRACE/SNAP User Workshop
Columbia, Maryland
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Organization

BWR Modeling and Model Assessment Session Agenda

1. **Model Overview**
2. Determining Key Analysis Parameters
3. Important BWR Phenomena
4. BWR Specific Components
5. Steady State Model
6. LBLOCA Simulation

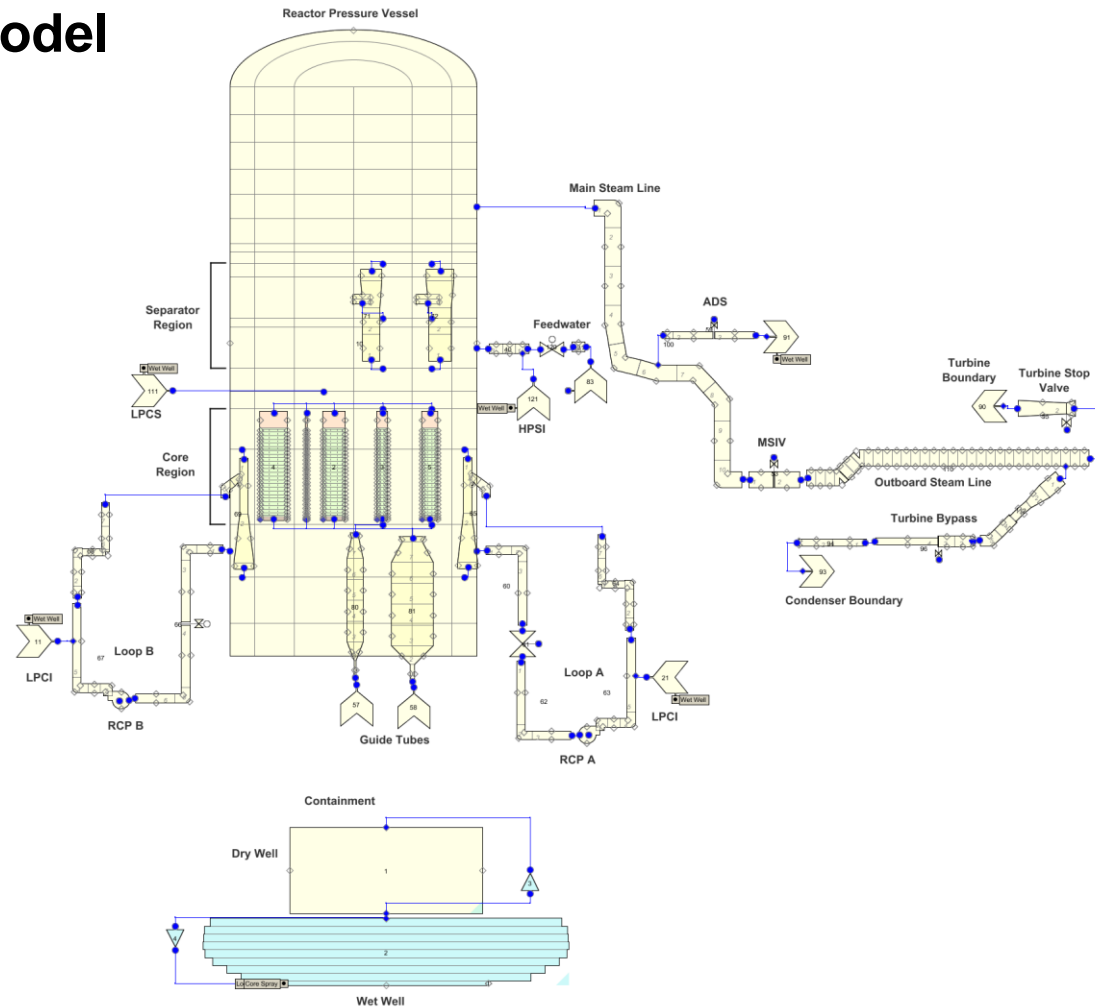


BWR Model

Simplified BWR Model

Model Contains:

1. Vessel and internals,
2. Recirculation Loops,
3. Feedwater line,
4. Steam Line with ADS and Steam Bypass,
5. LPCI, LPCS, HPSI,
6. Containment



VESSEL and Internals

VESSEL Component: 19 Axial Levels, 3 Radial Rings, 1 Azimuthal Sectors

Steam Dome Region

Contained in Levels 12 through 19

Separator Region

Contained in Levels 8 through 11,
Houses the 2 SEPD components

Core Region

Contained in Levels 4 and 5 and Rings 1 and 2,
Houses the 5 CHAN components

CHANs 1 (Hot CHAN), 2, and 3 are in Ring 1

CHANS 4 and 5 are in Ring 2

Upper Tie Plate is at the top of Level 5

Lower Plenum

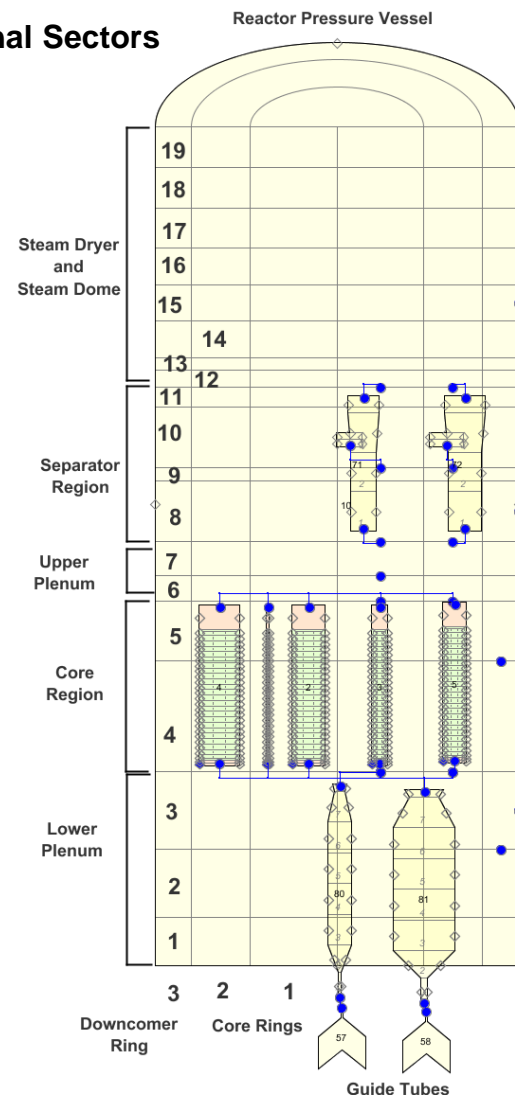
Lower 3 levels in Rings 1 and 2.

Core support plate is located at the top of level 3.

Guide Tubes are connected to the top of level 3.

Downcomer Region

Ring 3, Level 3 through 6





Recirculation Loops

Recirculation Loop

