

# Summary of RV Internals Baffle- Former Bolt Timeline of Events (2016-2017)

**Kyle Amberge, PM**  
EPRI-MRP

**Mike Hoehn, MRP IC Chair**  
Ameren

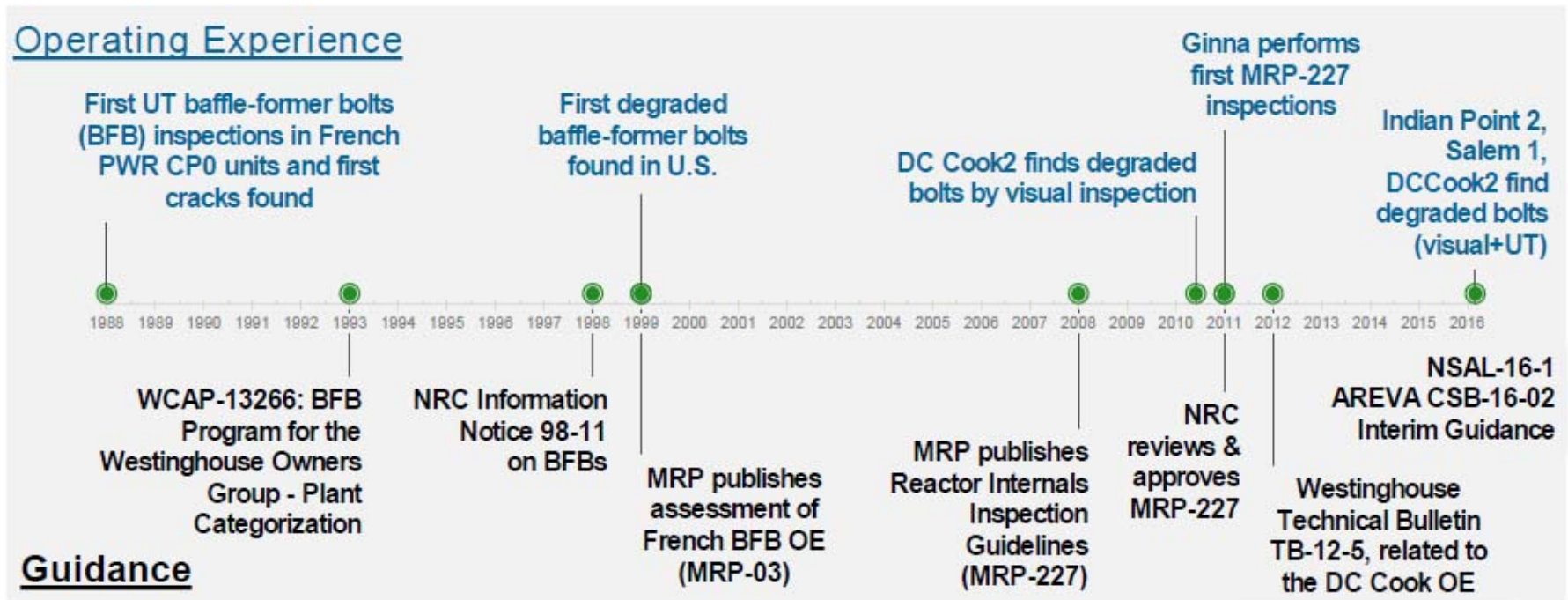
**EPRI BFB Focus Group**  
**NRC Public Meeting**  
7/12/2017



# Content

- 2016 and 2017 Baffle-Former Bolt OE
  - Industry Exam Summary
  - EPRI MRP / PWROG Correspondence
  - NEI 03-08 Interim Guidance
- 2017 Next Steps
  - Upcoming Exams
  - NEI 03-08 Interim Guidance - MRP-227 Rev.1

# Timeline



Per MRP-227-A, BFB UT exam is performed for WEC plants initially at 25-35EFPY and repeated every 10-years

Note: UT deployed as it becomes available and qualified for the various sites

# 2016 BFB OE

- Indian Point Unit 2
- Salem Unit 1
- Ringhals Unit 3
- North Anna Unit 1

# 2016 BFB FG Initial Communications

- June 1, 2016
  - MRP 2016-014 Issued
    - “The MRP and PWROG have formed a Baffle Former Bolts Focus Group (BFB FG) which will develop and recommend NEI 03-08 Interim Guidance in the near future.”
  - BFB Focus Group
    - Several Focus Areas:
      1. Cause and Extent of Condition / Interim Guidance Development
      2. Plant/Fleet OE Assessment
      3. Repair and Replacement
      4. NDE/Inspection
      5. Irradiated Materials Exams (Hot Cell)

# 2016 BFB FG Initial Communications

- Westinghouse Nuclear Safety Advisory Letter:
  - NSAL-16-1, "Baffle-Former Bolts", dated July 6, 2016
  - NSAL-16-1 Revision 1, "Baffle-Former Bolts", dated August 1, 2016
  
- NEI 03-08 "Needed" Interim Guidance:
  - MRP-2016-021 Dated 7/25/2016
    - "Transmittal of NEI-03-08 "Needed" Interim Guidance Regarding Baffle Former Bolt inspections for **Tier 1 plants** as Defined in Westinghouse NSAL 16-01"
  - MRP-2016-033 Dated 9/29/2016
    - "Transmittal of NEI-03-08 "Needed" Interim Guidance Regarding Baffle Former Bolt inspections for **Tier 2 plants** as Defined in Westinghouse NSAL 16-01"

# 2016 BFB FG Interactions with NRC

- Meeting with Industry Execs. May 2016
- NRC Interactions with US Congress June 2016
  
- BFB Focus Group NRC Public Meeting 7/19/2016
- ACRS Subcommittee NRC Public Meeting 11/16/2016
- BFB Focus Group Interim Guidance Meeting 4/12/2017
- NRC Materials Techn. Exchange Meeting 5/23-25/2017
- NRC staff observed hot cell testing in 11/22/2016
  
- Plants' had significant on-site interactions with NRC residents/region throughout outages in 2016-2017

# Fall 2016 BFB OE

- DC Cook Unit 2
- Sequoyah Unit 1



# Spring 2017 BFB FG Communications

- NEI 03-08 “Needed” Interim Guidance:
  - MRP 2017-009, dated March 15, 2017
    - “Transmittal of NEI-03-08 “Needed” Interim Guidance Regarding Baffle Former Bolt Inspections for PWR Plants as Defined in Westinghouse NSAL 16-01 Rev.1”
    - Superseded MRP 2016-033, 9/29/16 in entirety.
  - MRP 2017-010, dated March 17, 2017 , “Summary ‘White Paper’ of the Baffle-Former Bolt Prediction Results Provided by Structural Integrity Associates, AREVA, and Westinghouse”
    - Information supporting Interim Guidance development
  - MRP 2017-013, dated May 12, 2017, “Baffle-Former-Bolt Response Options "Playbook" for Information and Use in Planning for PWR Refueling Outages”

# Spring 2017 BFB OE

- Indian Point Unit 3
- Salem Unit 2
- Diablo Canyon Unit 1

# Integrating BFB Interim Guidance into MRP-227

- Plan is to integrate BFB Interim Guidance into MRP-227 Rev. 1 during interactions with NRC in SER process
  - Includes: MRP 2016-022 and MRP 2017-009
- Future Plans:
  - Continue to monitor OE
  - Enhance inspection guidance as necessary
  - Enhance NDE method as necessary

# Continued Industry Actions

- EPRI MRP, PWROG and the Nuclear Industry are:
  - Engaged in understanding BFB OE
  - Focused on maintaining design / safety margins
  - Improving available tools to support proactive asset management strategies for BFBs
    - The 2016 and 2017 OE reminded plants that recovering from RVI inspection findings could be costly, time-intensive, and extend outages

