



# xLPR - INTRODUCTION

- 10 CFR Part 50, Appendix A, GDC 4
  - May exclude dynamic effects from design basis when probability of piping system rupture is extremely low
- Standard Review Plan Section 3.6.3
  - Sets forth deterministic criteria for GDC 4 leak-before-break analyses
  - Must demonstrate that active degradation mechanisms are not potential sources of pipe rupture



## xLPR - CONTINUED

- Primary water stress corrosion cracking (PWSCC)
  - Affects dissimilar metal welds in PWRs
  - Operating experience events beginning in 2000 in piping systems previously approved for leak-before-break



# xLPR - CONTINUED

- xLPR Version 1
  - xLPR Version 1 code developed cooperatively with EPRI
  - Pilot study completed in 2012, NUREG-2110 (ML12145A470)
- xLPR Version 2
  - xLPR Version 2 code also developed jointly with EPRI



# xLPR - STATUS

- Code development
  - Successfully passed verification and validation testing
    - xLPR Version 2 is technically complete
  - Actively finishing remaining reports, other tasks, and documentation



# xLPR – STATUS CONTINUED

- Code release
  - NRC and EPRI developing the legal framework to distribute respective parts of code as a whole
  - No release date as of yet



## xLPR – STATUS CONTINUED

- NRR to perform acceptance review of code
  - Initiate fall 2017
  - RES to support with delivery of code, training, and documentation



# xLPR – STATUS CONTINUED

- Code applications for leak-before-break (LBB)
- NRC-EPRI cooperative effort will continue in accordance with the NRC-EPRI MOU



THANK YOU  
QUESTIONS?