



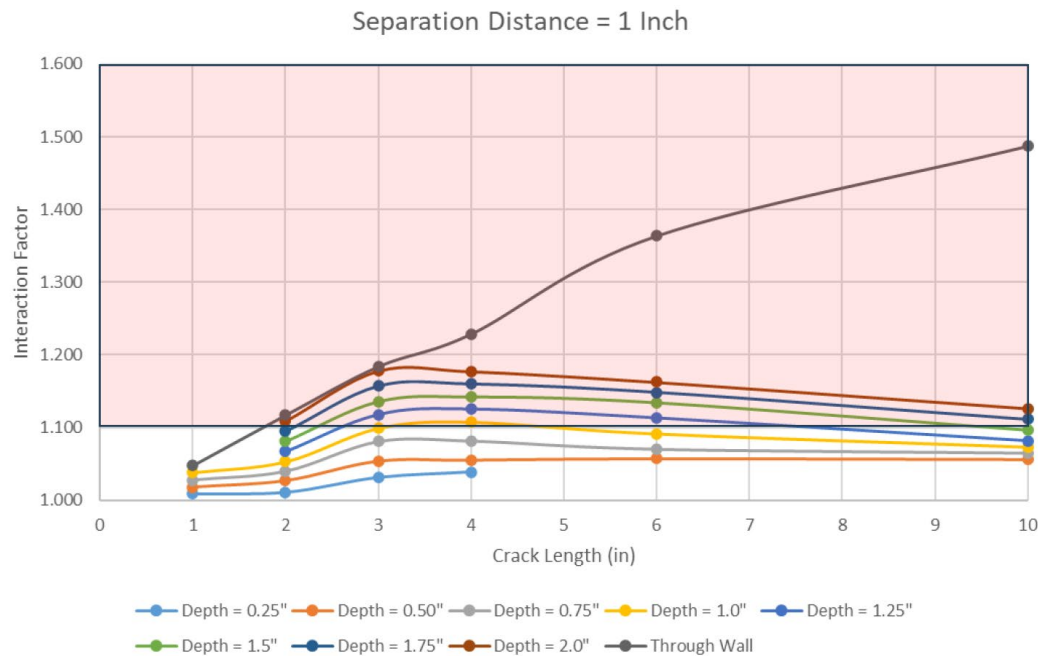
Flaw Separation Criteria (BWRVIP-158-A)

Background on BWRVIP-158-A

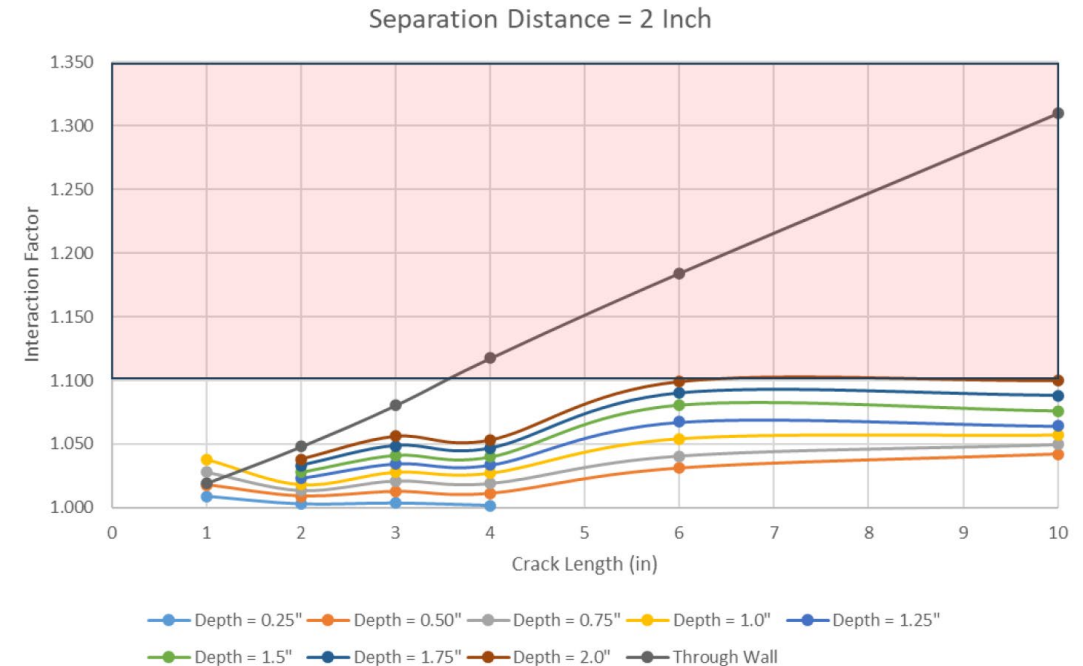
- BWRVIP-158-A uses limit load as part of the basis for flaw separation criteria
- BWRVIP-158-A has not been updated in nearly 20 years
 - There has been new research since then, including a new ASME Code Case for separation criteria
 - Most international standards use criteria that is different than BWRVIP-158-A and ASME Code and is based on crack aspect ratio (depth/length)
- Current research suggests that there is a need to revisit the conclusions in BWRVIP-158-A

Example Case for Core Shroud (DRAFT UNVERIFIED)

- For core shroud flaws, the current guidance of 0.5t is conservative for flaws less than 50% through-wall
- To be conservative for all part through-wall flaw depths, a separation distance of 1.0t might be better
- For through-wall flaws, the current guidance is not adequate



CURRENT GUIDANCE: 0.5t



1.0t

Third-Party Report

- An independent third-party contractor performed a literature review of BWRVIP-158-A, available solutions and international standards
- Contractor has extensive experience in flaw interaction calculations, including the lead author for updated ASME Code guidance (N-877-1)
- Contractor has recommended analysis cases needed to address gaps identified

Next Steps

- A set of cases will be established to perform finite element analysis (FEA), based on vendor recommendations and plant OE
- Additional flaw profiles will be researched for core shroud
- Contractor study results and results from FEA will be evaluated to determine appropriate next steps

- Members do not need to take any action as of today
- EPRI will provide updates going forward