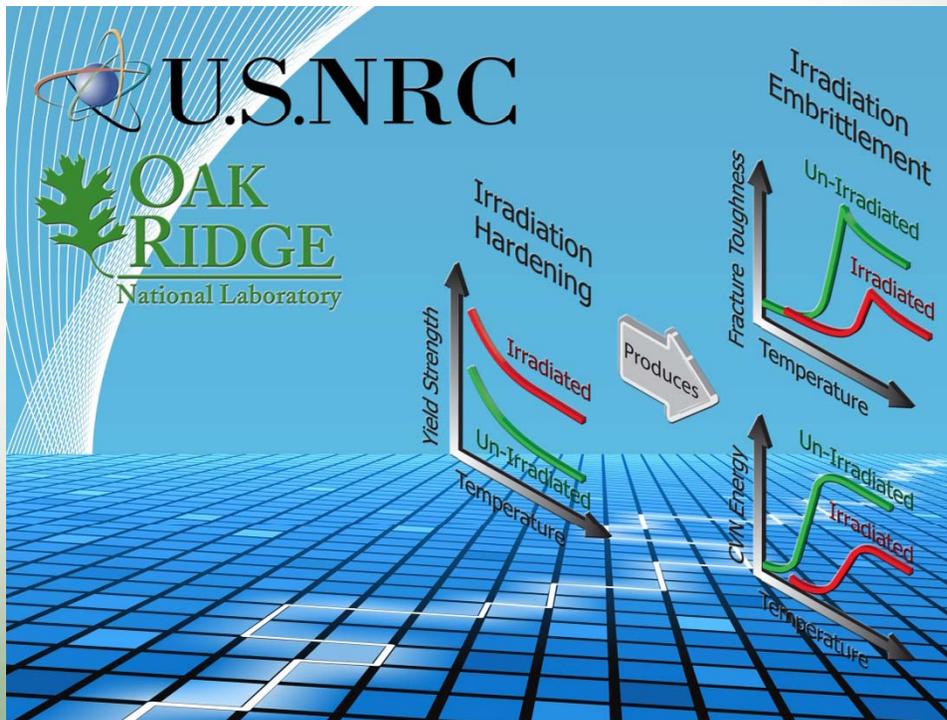


Embrittlement Database

Modeling and Simulation Group

Computational Sciences & Engineering Division



Problem Statement:

- On behalf of the NRC, ORNL is helping to organize and develop the project entitled: *Development of Predictive Models of Neutron Irradiation Embrittlement in Reactor Pressure Vessel Steels to Support Worldwide Efforts on Nuclear Power Plant Life Extension.*

Technical Approach:

- Through its support of the Probabilistic Pressure Boundary Integrity Safety Assessment (PISA) Program, CSED is engaged in the creation of a web-based reactor pressure vessel (RPV) steel embrittlement database. The initial version of the embrittlement database is intended to (1) provide an important tool for RPV integrity assessment within the NRC regulatory environment, and (2) constitute a crucial element of the recently announced NRC initiative to foster development of predictive embrittlement models for RPVs.

Benefit:

- CSED research results will impact RPV embrittlement prediction equations of Reg. Guide 1.99 and procedures for in-plant surveillance of RPV embrittlement 10 CFR 50 Appendix H.

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