

# Recent Sandia Safety Basis Improvements and Upcoming Activities

EFCOG Nuclear & Facility Safety Workshop  
April 16, 2019

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# SNL TECHNICAL AREA V (TA-V)



Technical Area V



# TA-V FACILITIES

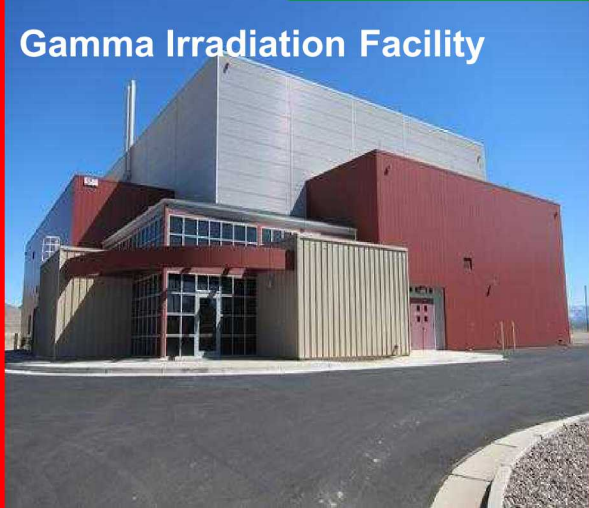
Annular Core Research Reactor



Sandia Pulse Reactor and Critical Experiments



Gamma Irradiation Facility



Auxiliary Hot Cell Facility



# SPR/CX – Recent Safety Basis Updates & Improvements

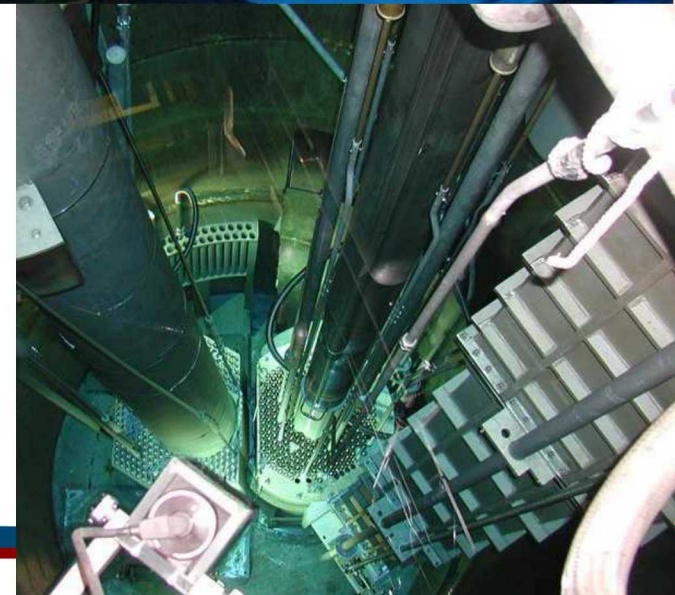
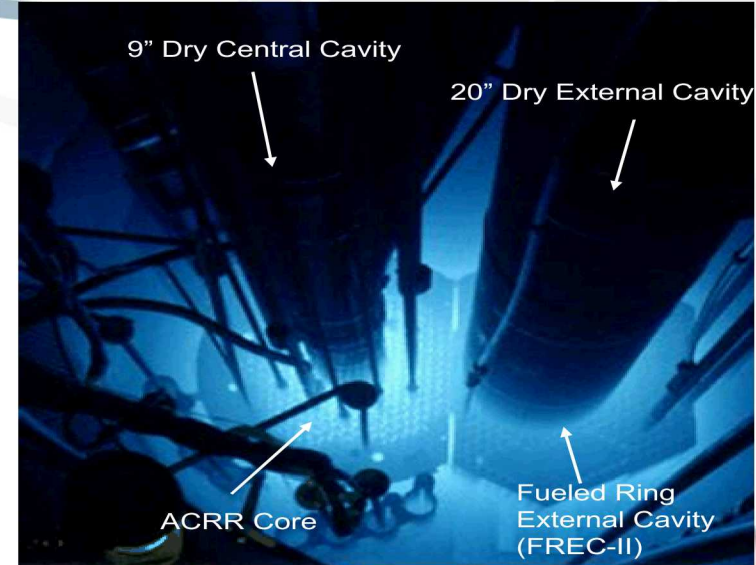
- From 2016-2018, Sandia completely revised the previous SAR
- SAR included:
  - SRPF DSA (SPR Reactor)
  - SPRF TSRs (SPR Reactor)
  - CX SAR Addendum (criticality exp.)
  - CX TSRs Addendum (criticality exp.)
- Revision included:
  - Removed SPR Reactor information
  - Consolidated into one DSA and TSRs
  - Updated Hazard and Accident Analyses
  - Updated to DOE STD 3009-2014 (SMPs)
- Formal Internal Reviews lasted over 7 months
- Submitted in March 2018, SER Received in Dec. 2018, Implementation in Progress (mid-May)





# ACRR – Recent Safety Basis Updates & Improvements

- In 2012, an ACRR improvement plan was initiated, this included:
  - Razorback reactor kinetics code written to conduct core accident analyses for the ACRR DSA – replacing numerous legacy codes
- Razorback DSA updates included in Change Notice (CN) 11 submitted in 2017
- During 2018, ACRR was shutdown for ~8 months for the Reactivity Control System Upgrade (RCSU) - including MSA, CRA, and FRA
- Currently working on updated Hazard Analysis, chapter updates, and 3009-2014 updates
- Also, working with the Sandia Field Office on a potential Alternate Safe Harbor Methodology request – allowing a hybrid 3009/Reg. Guide 1.70 methodology



# Potential ACRR Replacement - CREST

- ACRR was built in 1961 as a Gamma Irradiation Facility, concerns with
  - aging (both building and equipment)
  - meeting nuclear facility building design standards, configuration management of electrical/mechanical/plumbing, etc.
  - unique facility required for Nuclear Weapons qualification
- Potential replacement for ACRR....the Combined Radiation Environments for Survivability Testing (CREST) Complex
- Provide a larger range of environments and capabilities than the current ACRR, possibilities being considered include:
  - Coupled Accelerator – gamma irradiation
  - Adjacent Hot Cell
- Sandia is currently supporting NNSA in the lead up to CD-0





Thank You & Welcome!

