

July 26, 2023

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# ASME Code Development - Nonmetallics

Status 2023

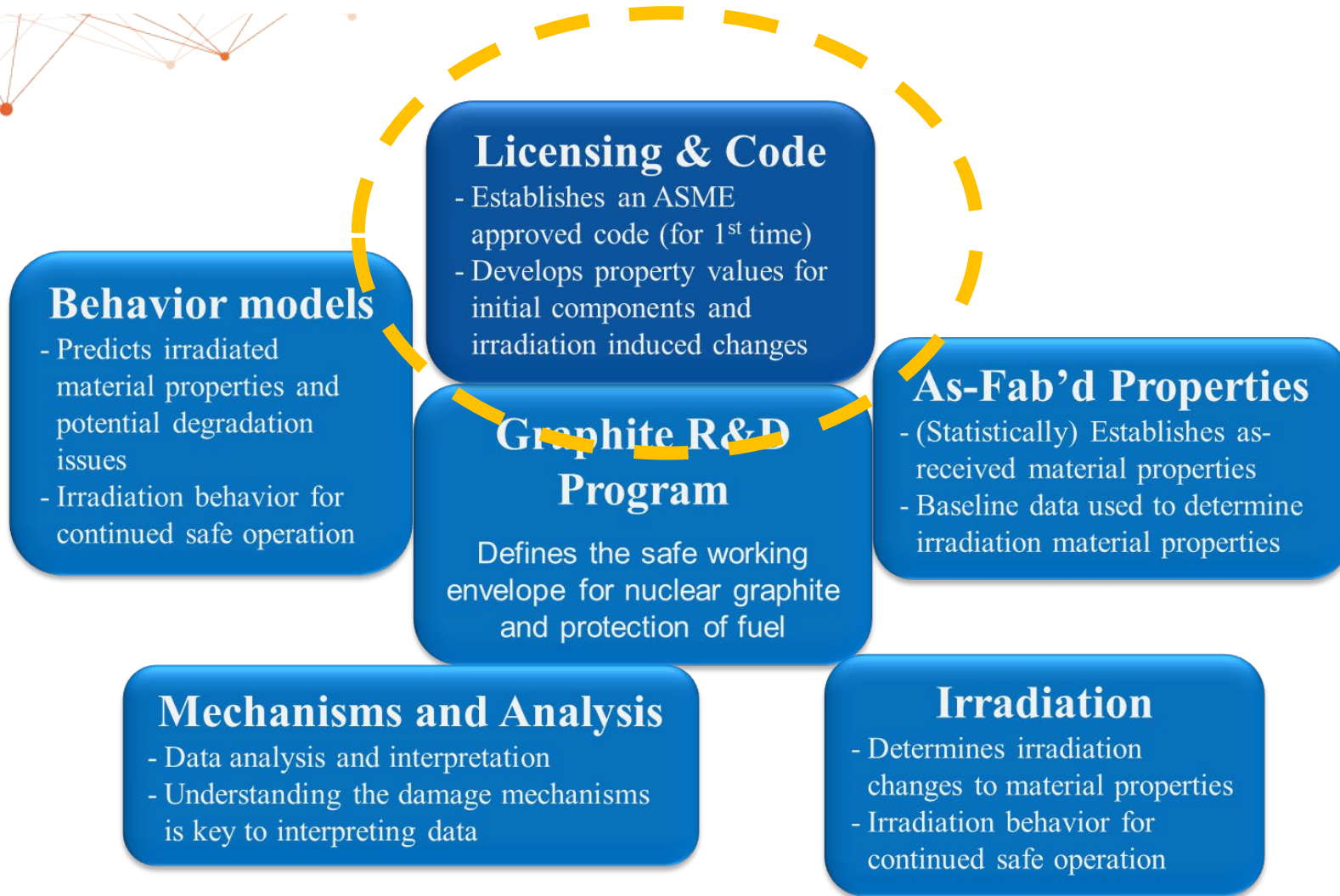
**DOE ART Gas-Cooled Reactor (GCR) Review Meeting**

Virtual Meeting

July 25 – 27, 2023



# ASME is now one of the largest areas in program



## FY22 ASME Activities

Irradiation Response

Design Rules

Molten Salt

Oxidation

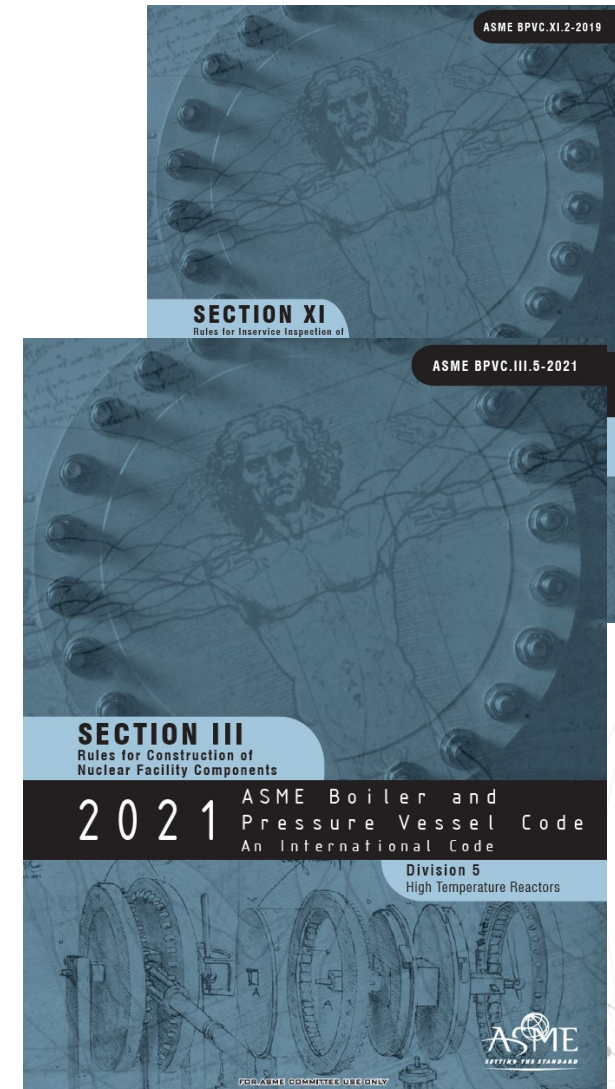
Definition of Failure

RIM

Composites

# ASME Task Groups

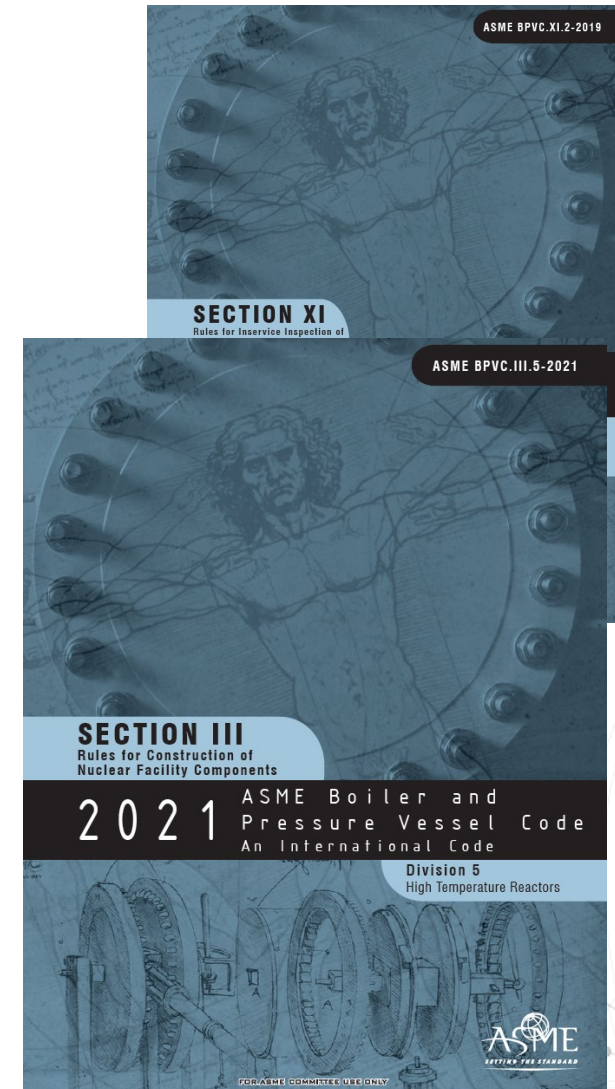
- Task Groups within the ASME Section III, Division 5, Subsection HHA/HHB
  - Based upon identified gaps in the code
  - Main activity of Nonmetallic Working Group
- Task Groups:
  - Component Failure (Martin Metcalfe)
    - *Section III-5 (Component Failure)*
    - *Section XI-2 (Component Inspection)*
  - Ceramic Composites (Wilna Geringer)
  - Design (Andrea Mack)
  - Degradation:
    - Irradiation behavior (Will Windes)
    - Oxidation behavior (Cristian Contescu – retired)
    - Molten salt interactions (Nidia Gallego)





# ASME Task Groups – discussion today

- Task Groups within the ASME Section III, Division 5, Subsection HHA/HHB
  - Based upon identified gaps in the code
  - Main activity of Nonmetallic Working Group
- Task Groups:
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    - *Section III-5 (Component Failure)*
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  - Ceramic Composites (Wilna Geringer)
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# Where do they fit in?

- Irradiation behavior (Will Windes)
  - “All graphite behaves similarly”
- Ceramic Composites (Wilna Geringer)
  - Addressing critical issues in ceramic composites code rules (HHB)
- Design (Andrea Mack)
  - Probability of Failure (POF) questions
  - Needed “right now” for initial HTR designs
  - An ASME priority for 2025 version of BPVC
- Component Failure (Martin Metcalfe)
  - What is failure in graphite?
  - Damage tolerant material

