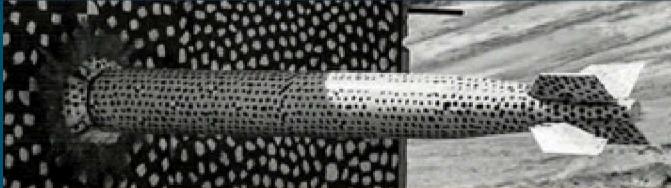




# Terry Turbine Users' Group Meeting - TTEXOB



SAND2020-6872PE

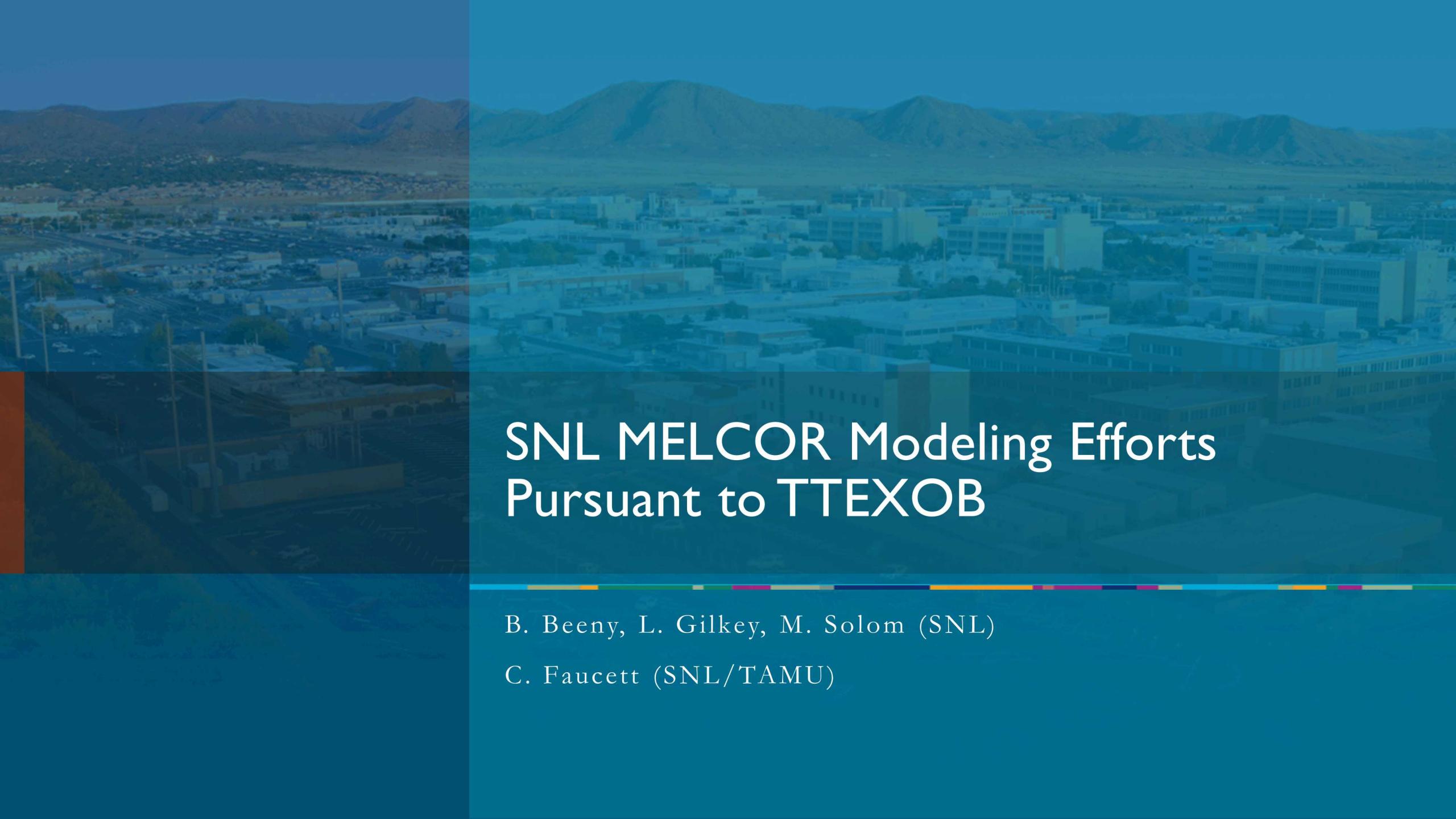


*PRESENTED BY*

SNL Technical Staff



Sandia National Laboratories is a multimission laboratory managed and operated by National Technology & Engineering Solutions of Sandia, LLC, a wholly owned subsidiary of Honeywell International Inc., for the U.S. Department of Energy's National Nuclear Security Administration under contract DE-NA0003525.

The background of the slide is a photograph of a large industrial complex, likely a nuclear facility, with numerous buildings and structures. In the distance, a range of mountains is visible under a clear sky. The image is partially obscured by a dark blue overlay.

# SNL MELCOR Modeling Efforts Pursuant to TTEXOB

---

B. Beeny, L. Gilkey, M. Solom (SNL)  
C. Faucett (SNL/TAMU)



- Previous work added mechanistic RCIC models to MELCOR (2015-2017)
  - Homologous pump model
  - Terry turbine pressure and velocity stage models
  - Rigid shaft model (torque-inertia equation)
  - Miscellaneous features
- Probabilistic Risk Assessment (PRA) type study on BWRs
  - Demonstrate MELCOR capabilities for modeling RCIC intervention in one or more selected severe accident scenarios
  - Demonstrate the PRA process as a means of risk-informing certain decisions (e.g. severe accident mitigation and response)
  - Support Texas A&M University as required (funding and technical staff resources) for combined milestone 5&6
- Nuclear Energy University Programs (NEUP) project on combined RCIC/ATF strategies for accident mitigation
  - SNL/TAMU/industry cooperative effort
  - SNL technical staff responsible for MELCOR modeling/development
  - SNL technical staff regularly consult with TAMU experimentalists and will advise on future TAMU MELCOR modeling