
Integrating socially led co-design into consent-based siting of interim storage facilities

PI: Kuhika Gupta, University of Oklahoma

Program: Consent-Based Siting (IRP-MS-2)

Collaborators: Hank Jenkins-Smith (OU), Carol Silva (OU), Joseph Ripberger (OU), Todd Allen (UM), Aditi Verma (UM), Shanna Daly (UM), Denia Djokić (UM), Paul Wilson (UW), Dominique Brossard (UW), Ani Ter-Mkrtchyan (NMSU), Joe Carter (PNNL), Nicholas DiNunzio (PNNL), Elisabeth Graffy (PNNL), and Kevin Kautzky (PNNL)

ABSTRACT:

The proposed work will develop and empirically evaluate a new approach to consent-based siting (CBS) of interim storage facilities that features a socially led engineering design process that gives members of the public, community leaders, and stakeholders in host communities an opportunity to co-design the facility they are being asked to host. The project team posits that this approach will lead to a more robust and equitable siting program that empowers communities, informs decision-making, and gives communities an opportunity to develop positive narratives about the facility they design for their community. The work will consist of six integrated tasks that will individually and collectively provide actionable recommendations to the Department of Energy about how to incorporate co-design principles into CBS efforts in the future. Overall, the project has five key objectives:

- (1) Enhance equity and procedural justice in the CBS process by involving diverse communities and perspectives in all aspects of the siting process, including facility design.
- (2) Develop and test a new approach to CBS that places facility design at the center of community engagement.
- (3) Empirically evaluate the potential impact of co-design on facility siting outcomes.
- (4) Provide actionable recommendations to the Department of Energy about how to incorporate co-design principles into CBS efforts.
- (5) Recruit and train a new and diverse generation of students and early career scientists to develop, facilitate, and manage CBS programs in the future.

This is an ambitious project that will require extensive collaboration between a transdisciplinary group of researchers and practitioners with experience and expertise in nuclear engineering, SNF management, CBS, community engagement, design research, and participatory co-design. It will



U.S. Department of Energy

also require a mix of academic and policy experience to ensure that the research is rigorous but also relevant to policymakers. The research team was built to maximize expertise and overlapping areas of collaboration along each of these dimensions. Leading researchers at the University of Oklahoma and New Mexico State University have expertise in SNF management, CBS, and community engagement; researchers at the University of Michigan and Wisconsin have expertise in nuclear engineering, community engagement, design research, and participatory co-design; and collaborators at Pacific Northwest National Laboratory have extensive policy expertise and experience in SNF management and environmental justice.

In addition to scientific credentials, each person on the research team has experience working on large transdisciplinary research projects and there is a strong history of communication, collaboration, and trust between team members that will facilitate the type of collaboration necessary to accomplish a project of this magnitude.