NE-23-31609 – Assessment of NuScale SMR Steam Heat Augmentation for Chemical Plant Decarbonization

NuScale Power LLC is located in Corvallis, OR. The use of their small modular reactor power plants, such as VOYGR™, work to fill their mission of improving the quality of life for all humankind.

Industrial emissions represent a substantial contribution to carbon dioxide driven climate change, especially in chemical production facilities. The chemical industry requires a large heat supply at high temperatures and the lack of a viable low-carbon steam production technology option at commercial scale (e.g., 1Mlb/hr of steam) makes this challenge difficult to overcome. NuScale has developed a heat augmentation system that can address these needs, but there are questions on requirements and cost effectiveness to integrate such a system.

NuScale will partner with Oak Ridge National Laboratory (ORNL) to perform a techno-economic analysis of a NuScale plant with a novel heat augmentation system for application to a commercial scale chemical production facility to help understand the functional requirements for the system and determine best ways to integrate with the facility.